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AIR CONDITIONING AND REFRIGERATION News

Issued Every Monday at 450 W. Fort St., Detroit 26, Mich.

December 23, 1946

Vol. 49, No. 17, Serial No. 927
Established 1926.

Reentered as second-class matter October 3, 1936 at the post office at Detroit, Michigan, under the Act of March 3, 1879. Trade Mark Registered U. S. Patent Office. Copyright, 1946, by Business News Publishing Co.

INSIDE DOPE

by GEORGE F. TAUBENECK

Story of the Week
Money Isn't Everything
Wilson on Strikes
Sellers' Market Fading Fast

Story of the Week

Two months after he had been discharged from the Army, a returned vet re-enlisted, and requested service in the European occupation troops.

"Why, in the name of the Bearded Prophet, do you want to serve in Europe?" demanded his father. "It's nothing but chaos over there."

"Sure, sure, sure," replied the son. "But over there, chaos is better organized than it is here!"

Money Isn't Everything

In the November issue of *Harper's Magazine*, Peter F. Drucker makes some interesting observations about the causes of labor-management strife. Title of his article, "Why Men Strike," was first used as title of an editorial which appeared in AIR CONDITIONING & REFRIGERATION NEWS way back in January (Jan. 28, 1946).

(Incidentally, the reasons why men strike which were mentioned in that editorial—and they are basic reasons—are nowhere mentioned in Drucker's article.)

Peter Drucker, however, is one of the few astute and fair economic analysts of our screwy times. And his three conclusions as to the causes of labor conflict are worthy of examination. They are:

(1) The causes of labor unrest are almost attributable to concrete policies and objective conditions.

(2) Wage rates are seldom the important cause of labor conflicts.

(3) Overall solutions for labor troubles are no solutions at all—it's the *individual* who must be considered.

The above conclusions weren't put into "quotes" because they weren't quoted. But they do tell what Drucker has tried to say.

Mr. Drucker's great discovery in the field of harmonious labor relations is no discovery at all, really. It's simply an adaptation of Andrew Carnegie's highly successful principle for getting the most and the best out of junior executives. His principle, couched in poker terms, was:

"Give them cards and chips, and *deal them into the game.*"

Bob Zuppke, the immortal and unpredictable University of Illinois football coach, once advised an assemblage of high school mentors:

"Blow up the ball and toss it out to them. Give them a chance to work out original plays on their own initiative. The results will surprise you."

One school of thought insists that corporation managers should spell out the duties of all employes, and then stand over said employes, with brass knuckles in plain sight, to see to it that every employe does what he is told to do, and that he or she doesn't waste a minute.

Another approach to the problem of labor productivity is that of setting up goals to be achieved, and then encouraging department chiefs and their associates to work out ways and means of achieving those goals.

Drucker states an interesting example of the contrast between the two methods:

"In the fall of 1943 I visited two tank engine plants in two neighboring Midwestern cities (let us call them Indianapolis and Dayton, though those aren't the real names). Both plants were run by the same company and they produced identical

(Concluded on Page 7, Column 1)

Navy Plans to Re-equip Ships, ASRE Learns

Spring Meeting to be In Los Angeles June 8-11; Money Heads Society

NEW YORK CITY—A broad program of events, both technical and social, marked the forty-second annual meeting of the American Society of Refrigerating Engineers held at the Hotel Pennsylvania here Monday through Wednesday last week. Attendance totaled about 875 members and guests.

Newly elected officers of the society, headed by R. H. Money, president, were installed, and this convention also saw the first meeting of the new council, comprised in part of directors chosen by the individual A.S.R.E. sections. Charters were presented also to four new sections organized during the past year.

Official announcement that the thirty-fourth spring meeting will be held in Los Angeles next year was made during the sessions here. The dates will be June 8 through 11, 1947.

A.S.R.E. members also learned that the U. S. Navy is programming a complete refitting of all its ships with new refrigerating machinery, according to Commander C. V. Hawk of the Navy Bureau of Ships, who gave an address in the all-day symposium on refrigerated transport held Tuesday.

"In the next 18 months the Navy has to accomplish eight years of development work in refrigeration," declared Commander Hawk, who

(Concluded on Back Page, Column 1)

Frigidaire Is Now Producing a Line Of Display Cases

DAYTON, Ohio — Limited production of a new line of gravity cooling and forced air type display cases for groceries and markets has been started by Frigidaire Division of General Motors, P. H. Brennan, commercial sales manager, announced last week.

Mr. Brennan pointed out that 6, 8, and 10-ft. gravity cooling models are being built in very limited quantities along with 8 and 10-ft. forced air display cases. "Production will be stepped up as fast as possible," he explained.

All models are equipped with sliding service doors, modern fluorescent lighting, and full-view display windows, consisting of three layers of glass. A built-in ventilation system prevents fogging of the glass.

(Concluded on Page 4, Column 5)

Bonneville Heads Sales of Fedders-Quigan Div.

BUFFALO—E. A. Bonneville has been appointed sales manager of the unit air conditioning division and refrigeration division of Fedders-Quigan Corp. here.

As noted sometime ago in AIR CONDITIONING & REFRIGERATION NEWS, Fedders-Quigan will produce unit air conditioners, with production starting sometime next year. No details are as yet obtainable on the manner in which these products will be distributed.

Mr. Bonneville was formerly with the sales division of the Crosley Corp., and before that with Times Appliance Co., New York City distributor.

Top Union Officials Are Meeting With Contractors' Group

CHICAGO—Representatives of the National Association of Refrigeration Contractors and the United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry met Dec. 12 at the Bismarck hotel here "to discuss mutual problems."

Those participating in the meeting did not divulge details of what took place other than the following formal statement, which said:

"The growth of the refrigeration industry and the postwar problems have made it imperative for the contractor as representative of the industry and the union as representative of his employes to cooperate in the training and education of employes to meet the demands of the many changes and types of new equipment developed during the war.

"Other mutual problems were discussed which covered all phases of the refrigeration industry. It was found that it will be necessary for joint cooperation to bring about stable conditions on a national basis to fully cover all of the various phases of the refrigeration industry.

"Another meeting between the parties is scheduled for the first week in January at Washington, D. C. to further explore the problems that confront the two groups."

Representing the N.A.R.C. at the meeting were: Warren W. Farr, Cleveland, president, N.A.R.C.; Raymond Shock, Detroit, co-chairman, N.A.R.C. labor relations committee; Harvey Miller, Chicago; Arthur Radtke, Cincinnati, member, labor relations committee.

Representatives of the union present were Martin P. Durkin, general president of the union; John J. McCartin, general organizer; Leslie Dilg, general organizer; William Harbaugh, special representative; Arthur Olden, special representative.

Johnson Is Admiral General Sales Mgr.

CHICAGO — Wallace C. Johnson, for the past two years manager of field activities on all Admiral products, has been appointed general sales manager for the Admiral Corp. here, President Ross D. Siragusa, has announced.

In his new position, Mr. Johnson will have charge of the company's sales organization throughout the world, Mr. Siragusa said. Admiral divides the United States into nine regions, each headed by a regional sales manager. All major trading areas of the world are represented.

Before joining Admiral, Mr. Johnson was regional manager of the Army-Navy electronics agency here.

Frigid Midget Strip of Metal Becomes Radio At −435° to Make an Old Gag Come True

BALTIMORE — A tiny strip of metal about the size of a pin which has been cooled down to -435° F. makes a pretty good radio receiver all by itself, startled scientists discovered in experiments at Johns Hopkins University here.

The discovery was purely accidental, according to university statements. It seems that a group of research experts was conducting experiments with a bolometer, a war-developed device which permits "seeing" in the dark by use of a strip of superconducive metal (columbium nitride).

Enclosed in liquid hydrogen, the bolometer was connected to a loud speaker for purposes of the original experiment. When Dr. Donald H. Andrews turned off the electric heating coil, the temperature of the bolometer plummeted to 435° below, and the amazed group heard a radio program from a local station through the loud speaker, the university says. Other stations were picked up in further experiments.

There's little likelihood of this revolutionary discovery's junking present radio sets, say Johns Hopkins officials, who point out that the refrigeration equipment needed to produce such low temperatures would be expensive. They do think, however, that it might find practical application in transoceanic and other long distance radio work because the cold metal is extremely sensitive to wave impulses.

That's what the report says, anyway.

'Selective' Dealer Setup Under Fire In U.S. Suit on Bendix Distribution

Anti-Trust Charges Are Termed 'Without Basis' In Company Statement

NEW YORK CITY—An anti-trust action charging that the Bendix Home Appliance Corp. and the Telecoin Corp. have conspired to establish an illegal monopoly in the distribution, sale, and rental of Bendix automatic washing machines has been filed by the Federal Government in the U. S. District Court here.

Through its action, the Government casts a "monopolistic" shadow over selective distributor and dealer programs widely practiced in the home appliance industry.

The action by the Federal Government charges that Bendix has violated anti-trust laws through a highly restrictive distribution system which allegedly fixes wholesale and retail prices at high and unreasonable levels.

It charges the Telecoin Corp. with having an exclusive agreement with Bendix for the sale of Bendix washing machines for use in the rental trade. This agreement, the Government says, has made it impossible for many persons, including veterans, to enter the rental laundry business.

Judson C. Sayre, president of Bendix, denied that Bendix prices are high and unreasonable. He declared that company counsel is studying the Bendix distribution system and that any practices that may be found to be in conflict with anti-trust laws will be immediately remedied.

Mr. Judson admitted that his firm's commercial sales are handled through Telecoin Corp. However, he felt that the Government's complaint did not correctly describe that company's operations, which, he said, "were not calculated to exclude other automatic washing machines in the commercial field."

Wendell Berge, assistant attorney general in charge of the anti-trust

(Concluded on Page 17, Column 1)

NRDGA to Consider Appliance Division

NEW YORK CITY—Discussion of a proposal to form a major appliances, radios, and records division of the National Retail Dry Goods Association has been scheduled as part of the program for the major appliance and radio sessions at the NRDGA convention here Jan. 16, T. L. Blanke, manager of NRDGA's merchandising division, has announced.

In preparation for that discussion, Mr. Blanke has sent a questionnaire to leading major appliance merchandisers asking:

1. Should department stores do "outside selling," and if so, what kind?
2. How much commission should department stores pay their salesmen?
3. Should a store do its own servicing or should it "farm it out?"
4. Should a department store open branch appliance and radio stores?
5. Should a department store have appliances and radios in its basement store, in addition to an upstairs department?

The answers to these questions will form the basis of discussion, he said.

Dan Packard to Address NRDGA Appliance Group

NEW YORK CITY—Dan A. Packard, Kelvinator sales manager, will talk on "How to Do the Job" of building maximum sales volume in refrigerators at the annual meeting of the National Retail Dry Goods Association here, the organization has announced.

Mr. Packard will speak at a special session devoted to major appliances and radio which will be held in the Hotel Pennsylvania on Jan. 16, 1947.

Other speakers on the same program will tell "How to Do the Job" on electric ranges, washing machines, and radios and television. They will also discuss the overall merchandising picture.

Canadian R.S.E.S. Meeting In Montreal March 16-17

TORONTO, Canada — The eighth annual refrigeration convention sponsored by the Interprovincial Association of the Refrigeration Service Engineers Society will be held at the Mount Royal Hotel in Montreal March 16 and 17. Registration will commence March 15.

Appliance Demands Continue to Soar

DETROIT—Recent reports from the retail front indicate the public is still clamoring for electrical appliances.

Appliance orders placed by consumers were increasing rapidly in number, according to a report by Dun & Bradstreet for the week ended Dec. 11. The business research firm said demand soared above the very high levels of previous weeks.

"Selectivity was directed towards quality in many cases and consumer insistence upon brand names was evident in many of the numerous requests for durable goods," Dun & Bradstreet declared.

Emphasis to these findings was lent by a report that eight Los Angeles department stores sold their allotments of Launderall automatic washing machines within a few hours after the units went on sale. The report came from Ray Thomas Co., distributor of the home laundry manufactured by F. L. Jacobs Co., Detroit.

Following announcement of an open sales policy adopted by Jacobs, the stores sponsored an advertising campaign to introduce the Launderall to the Los Angeles area.

Barker Bros. told M. D. Schuster, general manager of the distributorship, that hundreds of people responded to the advertisements and that its allocation of 50 machines was sold in 40 minutes. Eastern-Columbia said its allotment was sold in the first 35 minutes and its 15 salesmen each have at least 25 customers

(Concluded on Page 4, Column 5)

60-ft. Tunnel Freezer Can Handle 4,000 lbs. Of Produce Every Hour

Unit Forms Integral Part Of Refrigeration Center

LANCASTER, Pa.—A 60 ft. long tunnel freezer, capable of freezing 4,000 lbs. of produce per hour and maintaining temperatures ranging from -30° F. to -40° F., is now being operated by the Consumers Ice & Coal Co. here.

Produce loaded on an endless conveyor belt and fed into the tunnel freezer is frozen in 14 to 25 minutes, depending upon the quantity to be frozen, according to Frank L. Snavely, of Consumers.

Consumers company is a widely known community refrigeration center. Its services include renting 2,200 frozen food lockers, chilling and aging meats, preparing foods for lockers, storing up to 60,000 bushels of fresh fruit, holding miscellaneous products in cold storage, processing fresh foods, quick freezing them, storing up to 3,000,000 lbs. of frozen foods, and making 90 tons of ice daily.

The tunnel freezer, made especially for Consumers by the Frick Co., manufacturer of refrigeration equipment, is not only equipped with the endless belt conveyor, but also with tracks for push trucks.

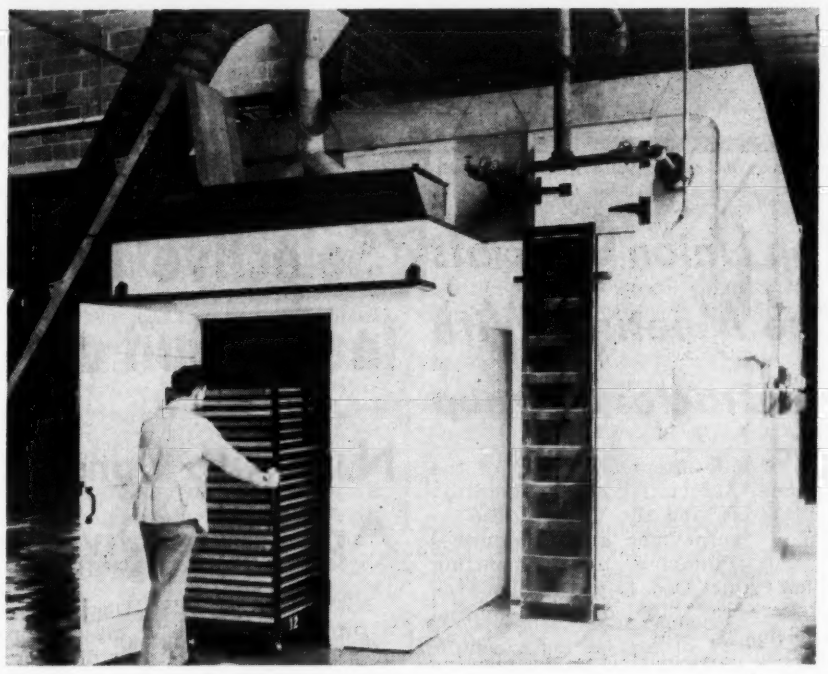
The 6 ft. wide wire cloth conveyor moves at a higher level than the push carts. It is operated by a Link Belt variable speed drive, using a 5-hp. motor.

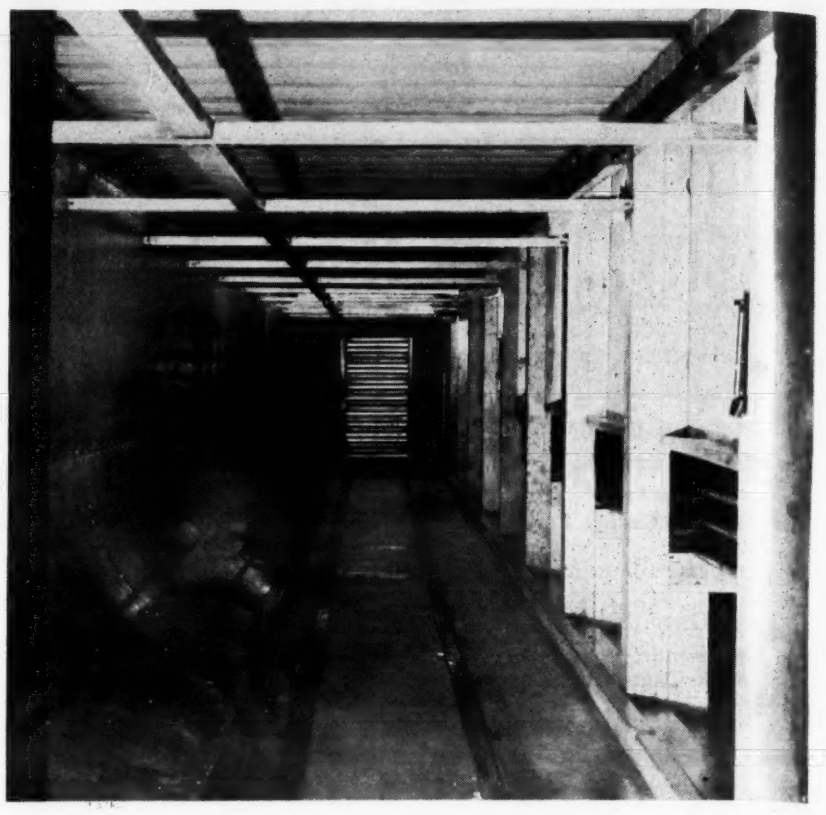
Inside the tunnel, installed near the floor, are 2½ miles of ¼ in. cooling coils. These coils are equipped with water headers for defrosting and are connected to a large accumulator, with float valve control. They are also connected to a 15 x 10 in. two-cylinder ammonia booster compressor, installed this year.

Above the coils are 10 Robinson fans, 32 in. in diameter and each driven by a 3-hp. motor. Capable of moving 105,000 cu. ft. of air per minute, they blow air downward over the coils. Curved sheets of galvanized steel then direct the air from the floor upward through the cloth conveyor.

In addition to the tunnel freezer, Consumers employs four Frick Blizzard freezers for handling the overflow produce.

Besides the compressor mentioned above, Consumers has in its compressor room a pair of 10 x 10 enclosed machines, a 9 x 9 enclosed machine, and a 15 x 16 synchronous motor driven semi-enclosed compressor. The plant has two boosters, one 8¾ x 6 in. and the other 11½ x 8 in.



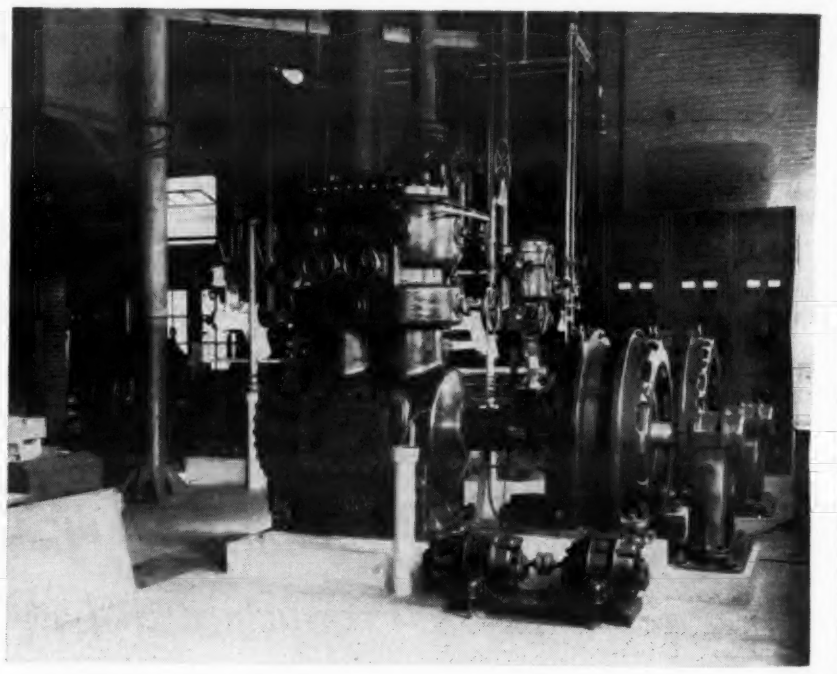


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(Upper Left) Push truck shown entering new tunnel type freezer. Feed to the conveyor belt is shown at top of picture above entrance.

(Above) Interior view of the tunnel freezer. The bottom of the conveyor belt appears at the very top of the picture. A push truck is seen riding on the track in the center. At the right are the coils.

(Below) The compressor in the foreground is the booster with cylinders measuring 15 x 10 in. It carries the low temperature load in the tunnel.





They'll look like Christmas for years to come with BONDERIZING *guarding their fine finish*

Bonderize, and you'll protect and preserve that smooth, gleaming finish to hold up through years of use, pleasing the consumer, strengthening your good name and reputation.

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Adjustable from 20 "of vacuum to 63 lbs. pressure

Proven in Performance

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Free from bellows strain

Here is a marvelous precision valve designed for systems with more than one coil, operated from the same compressor. Any variety of units such as ice cream cabinets, soda fountains, back bars, water coolers, candy counters, beer coils, storage rooms, etc., may be connected to a single compressor unit by the use of an Aminco Snap Action Valve.

This means more today than ever before, what with the difficulties experienced by the serviceman in satisfying his trade with "too little" material for the work to be done.

Aminco Snap Action Valves are not an experiment. They have proven their worth in years of actual service and are doubly useful under today's conditions when one piece of equipment must do the work of several.

May be used with any refrigerant except ammonia. For flooded as well as dry gas types or any combination of either.

As always, our company is definitely interested in the survival of the refrigeration industry and is doing its utmost to cooperate with established operators.

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The THERMO-LIMIT also limits pressure to prevent motor overload—and you can easily change pressure, capacity and super-heat in the field.

The interchangeable pressure cartridges and capacity cages makes these valves adaptable to practically all commercial refrigeration. For information ask for Bulletin 152.

Available at Alco refrigeration wholesalers everywhere.



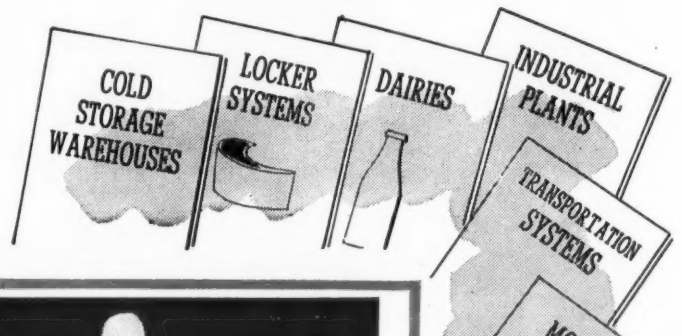
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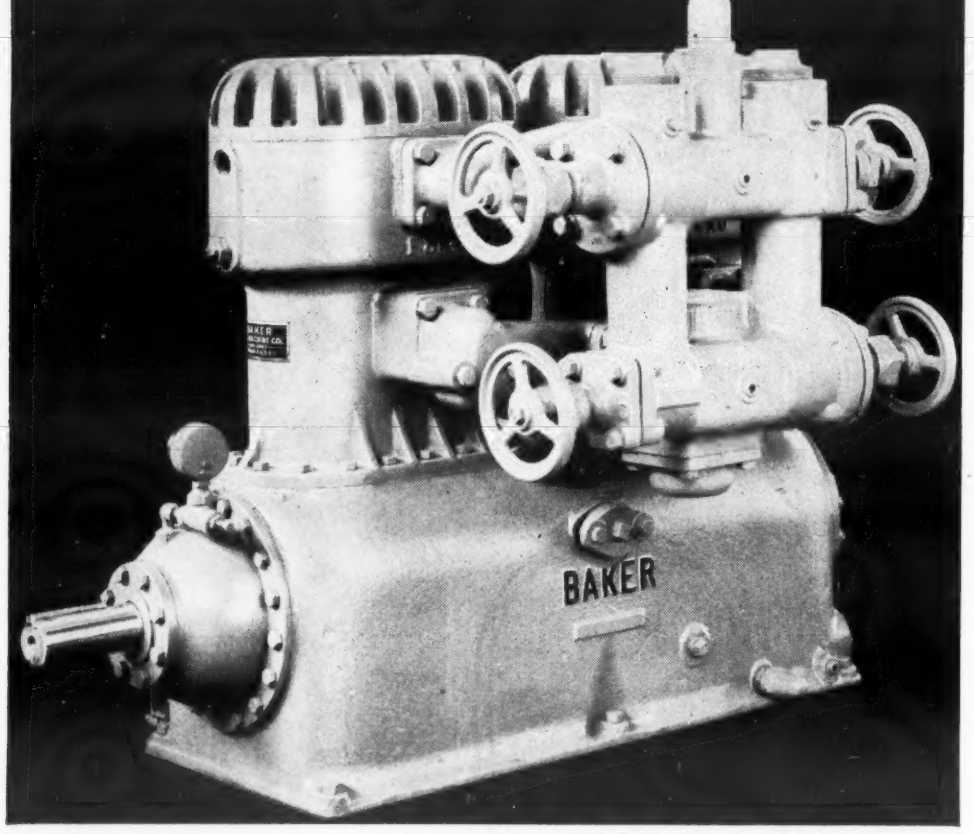
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MANUFACTURERS OF DEPENDABLE REFRIGERATING EQUIPMENT SINCE 1905

Refrigeration Leaders See Coal Strike Edicts Proving Their Point

NEW YORK CITY — Regulations issued during and just after the coal strike by the government and coal-burning utilities were cited by leaders in the refrigeration industry gathered here for the A.S.R.E. meeting, as added evidence of the essenital character of the services performed by refrigeration equipment.

It is expected that these regulations will be used by the industry to support its appeal for action by the new Congress for more equitable distribution of such materials as pig iron and steel, thus aiding in the production of refrigeration parts and equipment, most of it used in food processing and preservation.

Industry spokesmen pointed out that the coal strike restrictions gave top priorities to the generation of electricity to operate refrigeration equipment used in the production, distribution, and storage of food products of all kinds. Even in the initial restriction, which curtailed the use of air conditioning for comfort, it was shown that air conditioning for industrial processes and for health and safety were exempt from the coal conservation measures announced by the Civilian Production Administration.

While acknowledging the CPA action during the coal strike, industry officials at the same time called attention to the paradox of the same government agency terming refrigeration essential in one set of regulations but failing, in effect to recognize the same essentiality in other regulations issued a short time ago.

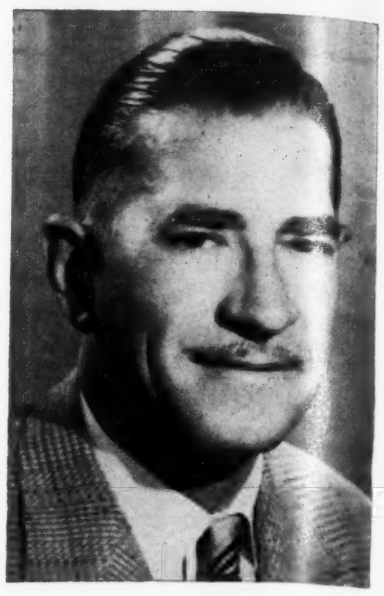
"Recent CPA directives have had the effect of channeling pig iron and iron castings away from the refrigeration industry for the announced purpose of helping the veterans' housing program," explained H. F. Spoehrer of St. Louis, president of the Refrigeration Equipment Manufacturers Association. "These materials are necessary for the industry to maintain production of refrigeration equipment that, in turn, is necessary to preserve the nation's food supply. The reduced material allotments to our industry caused serious manufacturing slowdowns in parts and equipment needed to repair and replace food preservation equipment throughout the country that was badly worn even before the war ended.

"It would appear that in trying to allot materials, CPA did not regard the refrigeration industry as an essential industry. Yet, during the coal strike the same agency decided refrigeration equipment was essential, the same as it was regarded essential all during the war.

"Naturally, we are wondering at the incongruity of our industry being called essential part of the time and being neglected part of the time. Certainly, food preservation is essential all the time, and new parts and equipment are necessary to keep food preservation facilities in operation—just as necessary, in fact, as electric power."

The refrigeration industry, Mr. Spoehrer continued, appealed to government agencies immediately after the CPA restricted its supplies of pig iron and iron castings. Such efforts were unavailing, he said, and as a result, the industry has appealed to all members of the new Congress for action which will insure the equitable distribution of vital materials. Industry leaders have suggested that a congressional committee be appointed to investigate the entire material situation as a means of helping all industries as well as stimulating the veterans' housing program.

Joins Fedders-Quigan



E. A. BONNEVILLE
Who will direct sales of refrigeration and air conditioning products for Fedders-Quigan Co.

Frigidaire Case Line--

(Concluded from Page 1, Column 2)

The gravity cooling cases are insulated with 3 in. of fibrous glass while similar insulation, but 4 in. thick, is used for the forced air models.

A combination scale shelf, complete with paper holder and cutter to speed wrapping; porcelain platters, and hardwood work boards will also be available as optional equipment on gravity cooled models and as standard on forced air cases.

The gravity cooling double-duty display cases are equipped with two Frigidaire fin coils, one placed in the top of the case, the other along the front of the bottom storage space. Porcelain-finish baffles are used to direct the air movement.

In the forced-air cooled display cases, a single cooling unit is used in the 8-ft. case, and a dual cooling unit in the 10-ft. case. These forced air cooling units are located in the ends of the case, and are completely "built in,"—meaning that a special vent for air return through the cooling unit is a part of the whole unit.

Fan motors operate continuously —running at half speed when the condensing unit is not in operation.

A one-year warranty is being placed by Frigidaire on the case, its equipment, and the Frigidaire condensing unit that may be supplied with it.

Appliance Demand--

(Concluded from Page 1, Column 5)

ready to accept delivery as soon as units are available.

"Customers were standing in front of our doors two hours before the store opened," stated Famous Department Stores.

A large crowd at the Globe department store was said to have bought the firm's allotment in a few minutes. Similar enthusiastic reports were received from Milliron's and Broadway Department stores.

Walker's Department store in San Diego said all its machines were sold 35 minutes after opening.

Heintz to Supervise Jahco Production

CLEVELAND—Following the submission of several resignations in the production department of Jack & Heintz Precision Industries, Inc., Ralph M. Heintz will temporarily supervise production in addition to his duties as vice president in charge of engineering, Byron C. Foy, chairman of the board, announced.

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With Self-Adjusting Sleevelock.

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How Builders Can Get Blower Motors Outlined In Directive from CPA

WASHINGTON, D. C.—A builder, owner or occupant of a new housing accommodation which is not habitable because the forced warm-air furnace lacks a blower motor can obtain the motor by certifying in writing to his furnace supplier that this hardships exists, the Civilian Production Administration pointed out last week.

OPA's Heating Branch called attention to this emergency provision of the agency's regulation because the small number of certifications made since the furnace motor channeling procedure was provided on Nov. 5 indicates that many builders, owners, or occupants of such housing accommodations apparently are unaware of the provision.

CPA said that, because of the overall shortage of fractional horsepower motors, furnace manufacturers found it necessary in recent months to ship a number of forced warm-air furnaces without blower motors. Many of these furnaces, now installed, need motors to make homes habitable during the present heating season. The need applied particularly to a number of homes built under the Veterans' Emergency Housing Program.

Direction 14 to CPA's Priorities Regulation 33, issued Nov. 5, explains how a certificate may be used to obtain a motor for a furnace to make new housing accommodations habitable, how suppliers are to handle the certificates, and conditions under which the certificates may be extended by suppliers if they are unable to fill orders for motors.

The wording of the certificate to be used in obtaining a blower motor under the specified conditions follows:

> The undersigned certifies to the seller and the Civilian Production Administration, subject to the penalties of Section 35a of the United States Criminal Code, that (i) he is the ..... (state whether owner, occupant, or builder) of a housing accommodation located at ..... (give location of housing accommodation) in which a forced warm-air furnace has been installed without a blower motor, (ii) the housing accommodation is occupied or ready for immediate occupancy, but will not be habitable during the heating season without a blower motor, (iii) he has been unable to obtain a motor for the furnace, and (iv) the motor which he gets with the certificate will be installed in and used with the furnace which has been installed without a motor.
>
> Signature of owner, occupant, or builder

If the supplier does not have any suitable motors on hand with which to fill the orders, and does not customarily obtain motors from a motor manufacturer for assembly with the forced warm-air furnaces which he sells, he must promptly forward the certificate to the supplier from whom he obtained the blower without the motor, noting on the certificate his own name and address, CPA said.

The certificate must be extended in this manner until the order is filled or it reaches the furnace manufacturer who customarily obtains the motor from a motor manufacturer (or the blower manufacturer, if the furnace manufacturer customarily obtains blowers complete with motors from him), but the order must be filled by that manufacturer under the rules of Direction 14 to PR-33 and the certificate may not be extended by him.

M-H Manual Explains Control of Radiant Panel Heating

MINNEAPOLIS—What is claimed to be the first complete manual on the control of radiant panel heating has just been published by the Minneapolis-Honeywell Regulator Co., John E. Haines, vice president, announces.

Entitled "Automatic Control of Radiant Panel Heating," the book will be distributed throughout the heating industry, to universities, architects, and others interested in this comparatively new method of heating homes, he said.

"It is our hope that this book will help the heating industry to understand better the need for adequate control of panel heating," he said, "and the great importance of planning controls at the same time the panel heating system itself is being designed."

In the preparation of the manual, invaluable assistance was obtained from F. W. Hutchinson whose authoritative work with radiant heating problems is known to all who follow the technical literature of heating and air conditioning, the Honeywell spokesman said. Much of the material was drawn from the extensive research and test work conducted by the company over the past several years.

The book contains diagrams, charts and photographs, together with information on the use of the graphs for determining the required performance of a heating installation under control.

The inherent performance characteristics of a panel system call for special controls designed specifically for the job, Mr. Haines continued. In addition, the fact that the heating panel becomes in a real sense an integral part of the structure makes it especially important that the means of achieving adequate control of a given installation be considered in the earliest stages of design. For this reason part of the book has been devoted to the relationship between design and control from the standpoint of fundamental theory.

Mr. Haines said that a number of radiant heating systems have been installed in various parts of the United States with no particular consideration to control until the job has been completed. In a great many of these instances it has been found that comfortable and efficient results are not possible because proper control was not taken into consideration.

The new book will be distributed free through the company's regular trade channels and also will be mailed to anyone writing the firm.

Remodeled Appliance Shop

SYRACUSE, N. Y.—J. A. Cariseo has reopened his remodeled appliance store at 205 East Genesee St. here, featuring all types of major and small appliances.

J. A. Cariseo is president and treasurer of the firm. James A. Cariseo is manager of the appliance department and Robert P. Cariseo is manager of the record department.

Bendix Sues F. L. Jacobs For Patent Infringement

SOUTH BEND, Ind.—An action has been commenced by Bendix Home Appliances, manufacturer of the Bendix automatic home laundry, against F. L. Jacobs Co. of Detroit, Mich., in the U. S. District Court for the Eastern District of Michigan, Southern Division, alleging infringement of the Wales et al. Reissue Patent No. 21,020, granted to Bendix Home Appliances, Inc., relating to automatic washing machines. Treble damages are asked.

The washing machine which Bendix Home Appliances alleges to infringe this patent is manufactured and sold by the F. L. Jacobs Co. under the trade name of "Launderall."

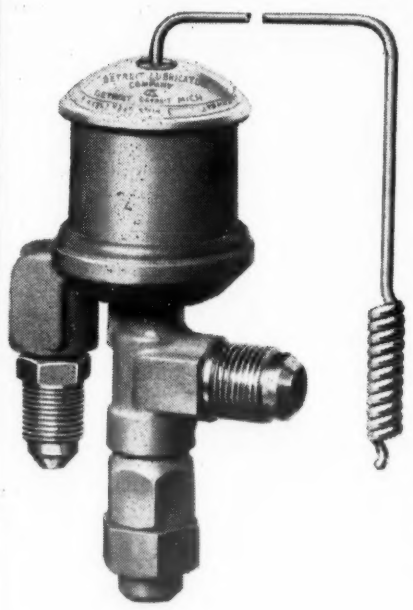
Rex C. Jacobs, president of the F. L. Jacobs Co. denied that the "Launderall" infringed on any "valid existing patents." He stated that two firms of patent attorneys in addition to the company's own patent counsel corroborated his opinion.

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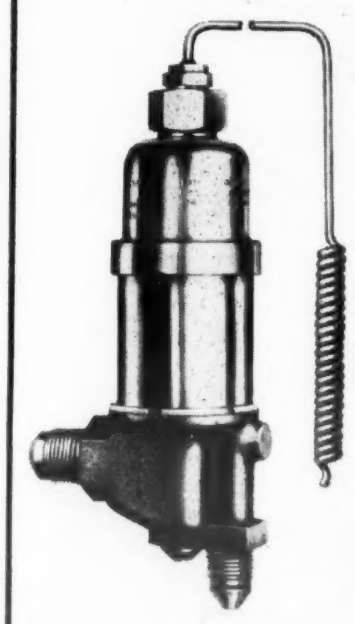
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57309	Freon-12	10	
57311	Methyl	35	
57315	Methyl	5	

Rated at ½ ton Freon-12 or .9 ton Methyl

UNIT NUMBERS OF NO. 673 VALVE

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Unit No.	Refrigerant	Max. Pressure	Connection
6731968	Freon-12	15	Inlet ⅜" SAE for ⅜" x ½" reducing nut. Outlet ½" SAE
6731428	Freon-12	55	
6731563	Methyl	10	
6731411	Methyl	40	

Rated at 1 ton Freon-12 or 2 ton Methyl

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A draftsman for Hotpoint Institute's kitchen planning department begins drawing of personalized kitchen. She gets information from customer's application blank. When completed, sketch is blueprinted and photo made with miniature appliances as models. Dealers are being trained to make plans.

* * *

Hotpoint Schools Distributors, Dealers To Speed Up Kitchen-Planning Service

CHICAGO—To meet the need for better information on kitchen planning, Hotpoint Institute at Edison General Electric Appliance Co. here has organized a kitchen planning school by which representatives of distributors and dealers are trained to "plan kitchens."

Hotpoint has since 1927 operated a planning department now numbering 16 professional designers. While Hotpoint is generally considered one of the largest "kitchen planners" in the electric industry, still the number of trainees that can be accommodated at one time is limited to approximately 25. The series of training sessions, each running one week, does not make "finished" kitchen planners; the general aim is to give the trainee a background upon which he can learn to plan kitchens himself.

Spearheaded by Hotpoint kitchen planning guide, "Your Next Kitchen," which has gone to three million housewives for 10 cents through dealer distribution and magazine coupons, Hotpoint Institute has planned several thousand "personalized" kitchens. Officials of the company credit the continued operation of this service during wartime for the company's present dominance in the kitchen planning field. They pointed out that the requests for plans at $3 each has generally been heavier than they were able to meet promptly. The present program to train dealers and distributors to plan their own kitchens locally across the country removes that overload.

Recently, the company closed its "Here Today" veterans' kitchen campaign, in which the first 1,000 of its postwar all-electric kitchen units were allocated to war veterans' new housing.

As operated by this company, draftsmen make the layouts from sketches submitted by the home-builders. Suggested equipment is listed on the blueprint, and the sketch is turned over to the designer who arranges the kitchen with miniature appliances. Photographed at close-range, the kitchen appears to be full-size.

The completed plan, in a folder, "Your Next Kitchen," as it goes to the customer, carries the blueprint, the equipment list, and the photo of the miniatures showing exactly how the kitchen will look.

While the company's planning service is handling more than 100 plans direct to the consumers weekly, another advantage of the move to "decentralize" the service through distributors, dealers, and home service departments of electric utilities is seen in that it will serve more home-builders in less time.

The "on-the-spot" kitchen planner has the chance to check specifications to minimize slip-ups, affording an opportunity to deal directly with contractor, plumber, and others directly connected with the installation.

Officials said that no pattern for charging for kitchen planning has been established by dealers. Some charge a fee, while others do it as a free service.

The basic move in establishing kitchen planning departments for furniture and department stores, electric utilities, and appliance shops by Hotpoint was coordinating the company's home economics institute, kitchen planning department, and kitchen sales division to arrange programs that could be put across in a brief period.

Working with the miniature models, each "student" is required to design many different types of kitchens before he "graduates." Among the basic points in planning any kitchen, the student learns that the following takes the lead:

(1) Home-owner's needs, according to size of family, amount of money available, and scope of entertaining;

(2) Tastes of customer, since the kitchen should conform with the rest of the house;

(3) Basic arrangement should be "L" shaped, "U" shaped, or of two-wall design.

In planning all kitchens, the students are taught, arrangements for three well-defined "work centers": preparation, cooking, and clean-up, must be made, with maximum storage space provided in base and wall cabinets around each.

The refrigerator, of course, is to be placed near the outer door; the range near the dining room for convenience in serving. The sink should be located between range and refrigerator for convenience in food preparation and clean-up, and the food-mixing center offers maximum convenience when placed near the refrigerator or range.



This converted curb-service sandwich shop is the first unit of a roadside appliance store in southeastern Michigan which is all display window. Since photo was taken, Quonset hut was converted into addition at right end to give store a plate-glass front of 126 ft. Each side has 12 ft. of plate glass.

* * *

Roadside Appliance Dealer Stops Traffic With Store That's All Display Window

By John Sweet

FLAT ROCK, Mich.—A recently enlarged roadside appliance store near here that is one part converted curb-service sandwich shop and one part converted Quonset hut is stopping many a motorist traveling Telegraph Road, the main highway between Detroit and Toledo.

Some credit for this probably is due to the unusual location: the store—Hamilton Appliance Shop—is situated about a mile and a half northeast of this town in a sparsely settled area. It is only a few feet off the road.

And some credit probably is due to the effective lighting: green neon lights and the regular lights are left on all night long.

But perhaps most of the credit should go to the rather unusual construction: the store is 126 ft. wide and 15 ft. long. Practically the entire front and 12 ft. of each side consist of plate glass—about 150 ft. of it in all.

"The whole store is a display window," explained Owner John P. Hamilton. "Every article can be seen from a passing car."

"And many motorists tell us they wanted to come in and look around," Mr. Hamilton's wife, Tella, added.

The Hamiltons give customers and visitors plenty of opportunity to do so. They keep the doors open seven days a week and don't close them at night until 11 o'clock.

So how are the Hamiltons doing in this outlying shop? Mr. Hamilton reports a substantial monthly average, part of which is due to the sale of garden tractors.

He booked so many appliance orders that the practice was discontinued several months ago. Too much grief, he summarized. When these orders are filled, he'll sell units as he gets them.

And what are the Hamiltons doing in this location? They're there because in 1938 Mr. Hamilton decided to build a curb-service sandwich shop for his wife and a home for them.

At that time, he was working in a Detroit appliance store. Earlier, he had received some national industry attention for his door-to-door appliance selling from a trailer carrying demonstrators.

The shop was a success but had to be closed when war broke out for a lack of waitresses. However, the Hamiltons continued to live there, and Mr. Hamilton went into war production work.

Upon returning from a trip to Mexico in July, 1945, Mr. Hamilton made up his mind to re-enter the appliance field and to convert the former sandwich shop into a store. He opened the store for business with six heaters and "closed" 15 minutes later. The heaters were sold before he could get them off his truck.

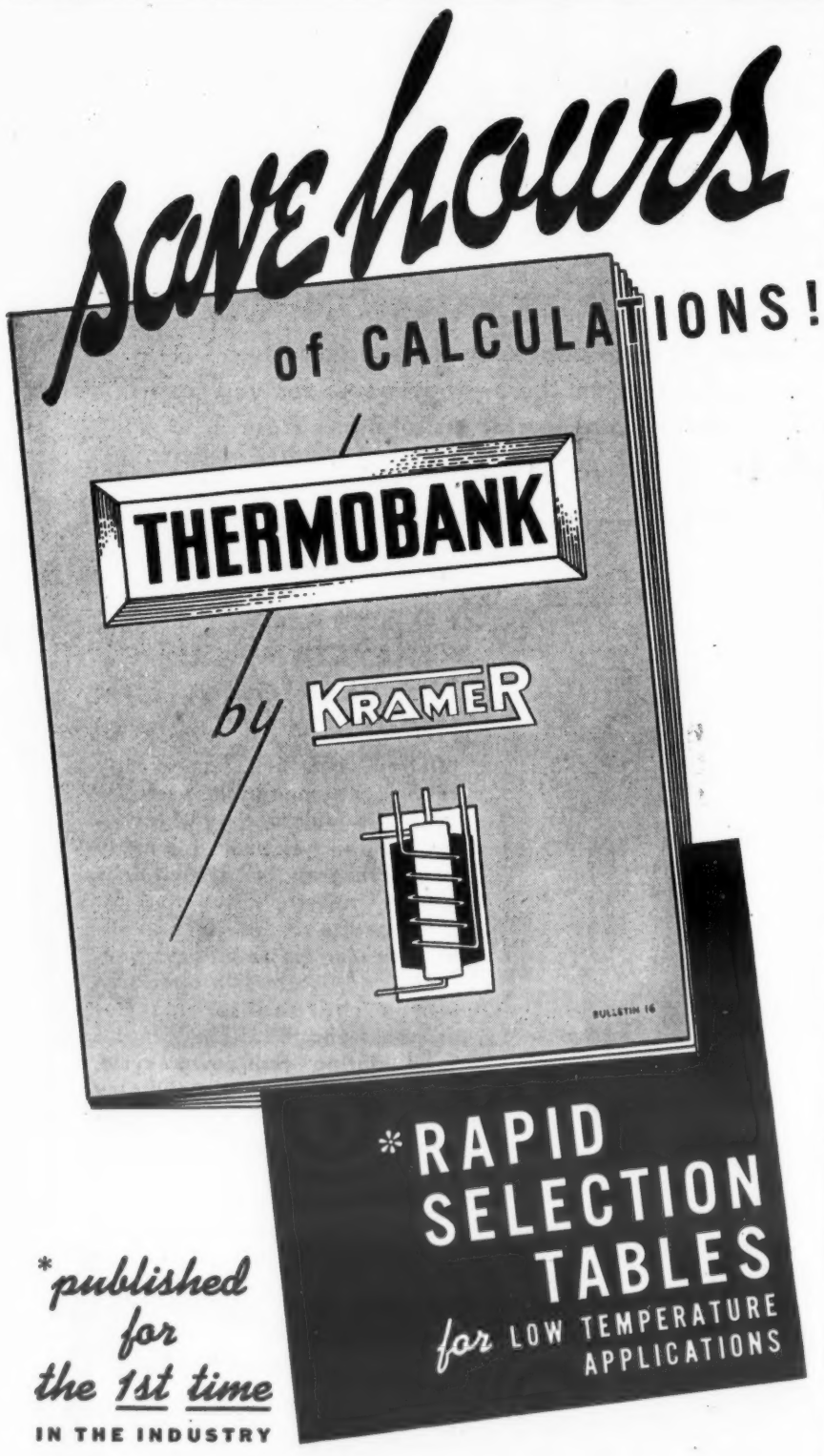
Since appliances were still far and few between the following Christmas period, Mr. Hamilton sold several hundred sleds, tricycles, and wagons to keep the cash register ringing.

When things began to look up this year, he decided that expansion of the store was in order. So in July he started construction of an addition, using one side and the top of a Quonset hut as a frame. A concrete parking lot is to be added at one end.

But this dealer has no intention of relying on the attraction of his store as a sales builder. He's going to hire "outside men" for house-to-house selling as soon as production merits it.

"You've got to go out after the business," Mr. Hamilton said emphatically. "There'll be a lot who don't."

Besides being a great believer in door-to-door selling ("I'm strictly an outside man," he says), Mr. Hamilton attaches much importance to courtesy. Such little things as opening the door for customers when possible and thanking them for calling, pay off, he's found.



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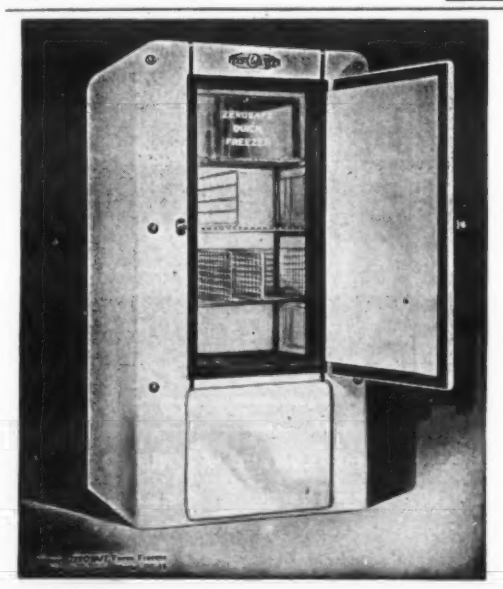
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INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)

goods, prepared and laid out by the same engineering department. Yet they differed markedly in their performance. The Dayton plant—an old ramshackle building hastily converted to war use—did a superb job, regularly exceeded its production quota, had a very low labor turnover in an area with a rapidly shifting working population, and had a low absenteeism rate, a low accident rate, and generally satisfactory labor relations. The Indianapolis plant—brand new and specially built for this war job—worked rather poorly with a productivity one-sixth less than Dayton, plenty of labor turnover, too many accidents, and pretty badly strained labor relations. What baffled the engineers most was that every manipulation was done faster in Indianapolis—yet the end result was less output.

"There was but one difference between the two plants. In the new plant in Indianapolis all details of the worker's job had been worked out in advance by an ultra-progressive management; all he had to do was to follow instructions. In Dayton there had been no time to do that. Management had done the over-all engineering and had worked out the general layout of each operation; but it had had to leave the actual details to be worked out by each group of men among themselves and with their foremen. Management—by necessity, not by choice—did not interfere as long as the production quota set by its engineers was reached and surpassed. The superintendent who showed me around in Dayton apologized all the time for what he called the lack of neatness; for no two aisles did the job quite the same way or at quite the same speed. In one group the same man would always hold the cylinder block while the cylinder heads were put on by four others; in the next group the men would rotate, etc. In Indianapolis, on the other hand, everybody did the same job in the same way at the same speed.

"But Dayton was a 'happy plant'; Indianapolis was miserable. In Dayton every single group of men insisted on showing our party how they did the job. There was a friendly rivalry between the aisles, the atmosphere was unhurried and easy-going, and the men talked to one another while they worked. In Indianapolis everybody was far too busy to look up from his work when we passed by. They hardly talked to one another for fear of falling behind. In the middle of our tour the manager was called away—trouble had flared up in one department, there had been a fight, and the men had walked out in a "quickie strike," the second in four days.

"It took the bosses some time to find out that it was precisely the 'lack of neatness'—supposedly so deplorable—that was responsible for the good showing of the Dayton plant. And it took even longer to introduce the Dayton methods in Indianapolis; both the local managers and the workers resisted it at first. But a year later when I visited there again both plants were working on a system under which every aisle was working as a team; and both plants were equally efficient and enjoyed equally good labor relations."

Maybe there's a good moral there.

Wilson on Strikes

A repetition of last year's round of strikes and wage increases in 1947 would be a national disaster, Charles E. Wilson, president of General Motors declares. Further general wage raises will mean corresponding increases in costs and prices, which will result in a further inflation that will end in a crash, he warned.

Wilson spoke at the annual meeting of the Illinois Manufacturers' Association in Chicago's Stevens hotel, last Tuesday. Earlier he discussed the wage and labor situation in a well-attended press conference.

Labor will realize no net gain from wage-rate increases obtained now, Wilson avowed. Accompanying price increases surely would wipe out the nominal increase in purchasing power that would result from higher wage rates. Increases in real wages can come only from technological improvements which foster larger production per worker—and such increases come only through gradual evolution, Wilson asserted.

Legislation will not remedy all labor problems, but certain changes in present labor laws are necessary. He listed these suggested changes as follows:

(1) Prohibit industry-wide bargaining; (2) end compulsory unionism; (3) make unions subject to laws applying to other groups; (4) clarify "collective bargaining"—a legalism to which employers are now forced to submit, but which is not defined by law; (5) outlaw jurisdictional and sympathy strikes as well as boycotts.

Next in importance to the country's economic welfare is the founding of a sound federal fiscal policy, Mr. Wilson told the press. Any such policy would embrace a reduction in present taxes which take 25% of the national income.

Warning that the nation is threatened with "industrial anarchy," Wilson also urged that Congress pass laws doing away with all forms of boycotts and industry-wide bargaining by unions.

"If there is one clear mandate in last month's elections," he said, "it is for the 'reform' of labor laws. Workmen's unions can have a sound and constructive place in American economic life. The majority of Americans are for them and do not want to destroy them.

"On the other hand," he added, "the overwhelming majority recognizes that they must be protected against the predatory abuse of monopolistic power under the guise of unionism.

"New labor laws must recognize that the right to work—to compete for a job and earn a living—is superior to the privilege of striking."

Sellers' Market Fading Fast

The present sellers' market, in which most goods move quickly from retailer to buyer, is disappearing rapidly.

This view was expressed last week in Chicago by Arthur E. Tatham, president of Tatham-Laird, Inc., and our old friend Richard Cooper Jr., president of R. Cooper Jr., Inc., distributor of General Electric Co. products.

"I believe the honeymoon is about over, and that the time is coming soon when we will have to go out and scratch for business," Tatham insisted. "You can buy a lot more things today than you could six months ago, and a lot of people now don't want to buy the things they thought they wanted to buy six months ago. Competition will be tough soon. A lot of distress merchandise will go on the market in the next 12 months."

Cooper pointed out that, in at least some phases, the nation already is "out of the sellers' market." He sounded a call for the use of effective "selling weapons."

"If appliance dealers continue to think that people will buy anything without effort on their part," Mr. Cooper insisted, "they're due for a rude awakening."

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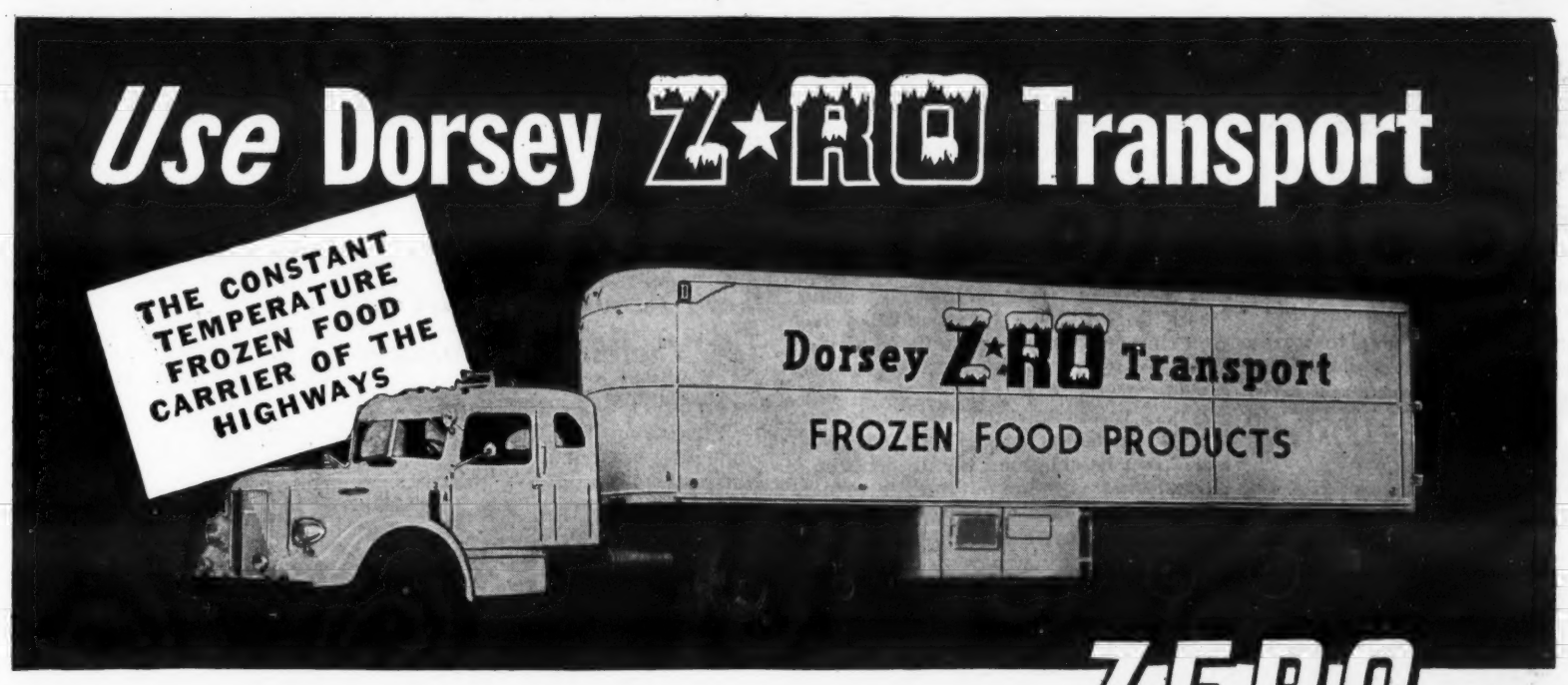


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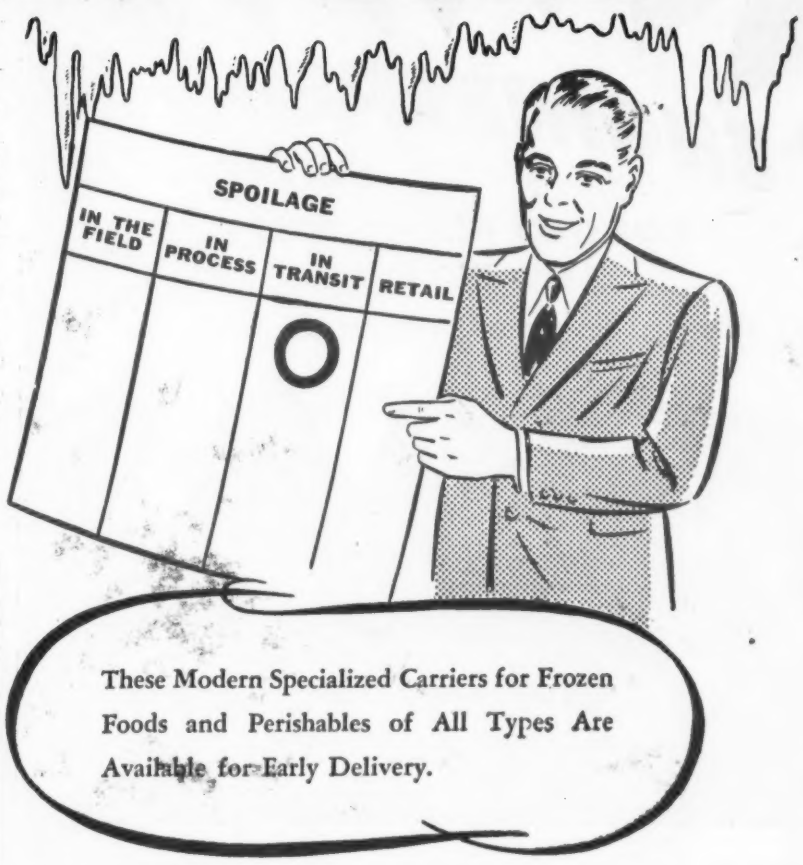
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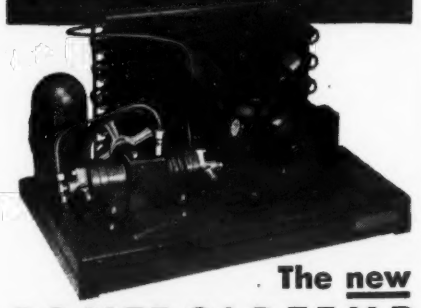
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Service Man Not Endangered by Ammonia If He Takes Proper Precautions, RSES Told

CLEVELAND — The average service man hesitates to work on ammonia machines because he fears the fumes and is inexperienced, but there is actually very little danger if work is done in an orderly manner, contends W. G. MacBride of York Corp., who discussed "Servicing Ammonia Compressors" at the annual convention of the Refrigeration Service Engineers Society here.

"Most service men start out in the household field and have thus had little experience, if any, with ammonia. Ammonia operates at pressures not much above 'Freon-12,' although they are probably close to those of 'Freon-22,'" said Mr. MacBride.

With ammonia, discharge pressures of 150 to 200 lbs. are usual, while the suction pressures will generally range from below 0 lbs. to 50 lbs., which is not excessive, he declared..

"Most ammonia accidents are due to closing the wrong valve or opening the system before it has been completely pumped down. It's easy to detect a leak in an ammonia system, but a slight trace of ammonia is a warning to get a gas mask.

"Don't put too much confidence in the gas mask until you find out if it works," he cautioned. "Don't rush into an ammonia-filled area without testing the mask. At first put the mask on and stay close to fresh air just in case the mask is defective."

Some of the important differences between ammonia compressors and conventional machines were outlined by Mr. MacBride, who pointed out that ammonia machines, for example, do not use the shaft seal arrangement that other units do. Shaft of an ammonia compressor is sealed from the atmosphere by compressed fiber packing.

Pistons are extra long and are of the double trunk type. This provides better alignment, he said. Gas enters between the upper and lower trunks of the piston, plain piston rings being used on the upper trunk and beveled oil rings on the lower trunk, as a rule.

Bearings of the connecting rods are made of die cast babbitt metal and generally show little or no wear. These bearings are in two sections, and can be shimmed for proper spacing. The main and outboard bearings of the crankshaft are also die cast babbitt and are removable. All bearings except the outboard can be lubricated by a splash system.

"It is necessary to watch the oil level in the sight glass of an ammonia machine because if the oil level is above the maximum mark it will be carried over into the lines," warned Mr. MacBride. "Oil is not miscible with ammonia, and if carried over it will collect in low spots and reduce the capacity of the system."

Poppet valves are often used on ammonia compressors, and sometimes these will become noisy, he said. Noisy valves may be the result of improper tension on valve springs or perhaps a worn cushion. The most common service operation involving valves is grinding the valve into the seat. This is done in about the same manner as with an automobile engine, using a more or less standard grinding compound.

"The most common and most serious service complaint about an ammonia compressor is 'liquid pumping,'" said Mr. MacBride.

Liquid pumping might be caused by an improperly installed expansion valve on the low side, he declared, or it might be the result of too low superheat. The minimum suction superheat should be 10° F. Insufficient superheat may result in a low discharge temperature causing frost to form on cylinder walls. This frost would indicate liquid pumping, according to Mr. MacBride.

An R.S.E.S. member asked if it was necessary to wipe out an ammonia compressor every time the oil was changed and if the oil should be changed every three months.

It is necessary, said Mr. MacBride, to clean the compressor every time the oil is changed, but whether to change it every three months would depend upon the application.

"If the oil is discolored, however, there is no question about the need for a change."

Ikard Acquires 3 New Lines To Wholesale In Arizona

PHOENIX, Ariz.—Floyd Ikard, 831 N. First Ave. here, has acquired the wholesale distributorship for the state of Arizona of products of Refrigeration Corp. of America, affiliate of Noma Electric Co., New York City; the Polar Freeze line, manufactured by Schelm Bros., Peoria, Ill.; and frozen food display cases manufactured by Goodsell Corp., Baltimore.

Mr. Ikard, who attended the recent All-Industry Exposition, held in Cleveland, and made many new contacts, is making a study of the refrigeration needs of Arizona and foresees new applications of refrigeration equipment in this state, distinguished for extreme climatic variations.

His store, with ample floor space for the full appliance line it carries, was established in a downtown location in October, 1945, and during its first anniversary sale featured nationally advertised merchandise in a broad range of major and small appliances.

Friganza Named Assistant To President of Coolstream

BROOKLYN — The Coolstream Corp., Brooklyn, N. Y., manufacturer of Coolstream water coolers, announces the appointment of Bertram Friganza as assistant to President Lyonel L. Berken.

Mr. Friganza formerly was associated with the Refrigeration Corp. of America as service manager and with the Long Island City Branch of the Charles E. Hires Co. (water cooler division), as well as with the Trade and Technical Schools of the New York City YMCA.

A MASTERPIECE in Thirst-quenching Convenience
OASIS ELECTRIC WATER COOLER
You're always *Sure* with an Oasis-built by Ebco, pioneers in the electric water cooler field.
The EBCO Mfg. Co.
401 W. Town St.
Columbus 8, Ohio

Bon Voyage



WILLIS H. CARRIER

Photographed in New York City recently just before sailing on a four month business and pleasure trip to South America, he predicted that within 15 years all public conveyances, perhaps even private automobiles, would be air conditioned.

Ex-OPA Head Becomes Distributor for Amana

DES MOINES, Iowa—Walter D. Kline, who resigned Dec. 1 as head of the Iowa district of the OPA, has announced his new firm, the Kline Distributing Co., will begin deliveries of farm, home, and institutional food freezers to dealers Jan. 1.

Owned and operated by Mr. Kline, the new firm will distribute for the Amana Society at Amana, Iowa.

A resident of Des Moines, he was a member of the Iowa Public Employment Service before being named assistant personnel director for the Iowa unit of the National Youth Administration in 1941. He joined OPA in 1942, serving as OPA personnel officer for the Chicago region. He became acting director of the Iowa district office in February, 1944, and led the OPA in Iowa through its most tumultuous years.

Range Firm Changes Hands

SHELBYVILLE, Ind.—Purchase of the Chambers Corp., manufacturer of the Chambers gas range, by Franklin, Frederick, and Robert Flato of Corpus Christi, Tex.

The new owners have declared that they contemplate no changes.

ASRE Group Inspects Carrier's 1st Centrifugal Refrigerating Machine

SYRACUSE, N. Y.—The first centrifugal refrigerating machine devised by Willis H. Carrier, chairman of the board of Carrier Corp., just after World War I, was recently inspected by the central New York section of the American Society of Refrigerating Engineers here.

The machine has been in continuous use, maintaining the constant temperatures and humidity required for ceramic lithographing at the Onondaga Pottery Co. plant here, said to be the first such plant in the United States.

Dr. Carrier recalled for the engineers that "this compressor was built to our specifications in Europe. There was no one we could find to build it in the United States, and in 1921 I went to Switzerland and then to Germany. The Jaeger firm at Leipzig took our order and the centrifugal unit was installed to air condition the Carrier offices in Newark, N. J., in 1922.

"In 1925 we sold it to the Onondaga Pottery Co., putting in a new model at Newark. It is satisfying to see it in service and know that it has served uninterruptedly all these years."

Richard H. Pass, president of the pottery firm, continued the story.

"In 1925, when this new plant was being built, we called on Carrier and built this building according to their engineering. It has cork wall insulation, 1 in., and cork roof insulation, 1 in., with double windows. Direct rays of sunlight do not strike the working space, daylight from the roof being admitted through sawtooth windows.

"With this system, we are able to maintain a constant temperature, varying not more than 2° F. plus or minus, regardless of outside temperatures down to -20° or however high, and also a constant humidity, varying not to exceed 2%.

"It is required here because of the exactitude of our process and the nature of the art and materials. Lithograph sheets, from which the designs are impressed on our ware, consist of backs and of fronts which differ in reaction to heat, cold, and moisture.

"They must be used always at the same temperature and humidity because the color impressions are taken from them successively. Sometimes the sheets are passed through the presses 11 times to yield impressions which must register within thousandths of an inch with relation to prior and subsequent impressions.

Lloyd L. Downing of Rochester is president of the central New York section. Charles Barrett of Syracuse is secretary.




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Plastic Powder by Air Beats Bottleneck at Minneapolis-Honeywell

MINNEAPOLIS — By using its DC-3 "Flying Laboratory" in a special cross-country hop to Newark, N. J. to pick up 1,800 lbs. of vital plastic powder, Minneapolis-Honeywell Regulator Co. recently avoided a temporary shutdown of production.

When a bottleneck in the manufacture of heating controls seemed imminent, Minneapolis-Honeywell contacted Newark where a large shipment of the badly needed plastic powder awaited distribution through normal channels. Rather than lose precious production time, company officials ordered the crew of the firm's DC-3 to fly to Newark and return with the material as soon as possible.

Accordingly, seats were removed from the passenger compartment of the "Flying Laboratory," which is also used for experimental work on aircraft controls, and, upon the plane's arrival in Newark, several 350 lb. barrels of plastic powder were secured to the seat brackets.

No sooner had the company plane returned with the shipment than it was rushed by truck to the plastic molding department where it was put to immediate use. In less than four hours finished plastic parts were on the way to the assembly department. In this manner the company kept its lines running while waiting for a shipment of 10,000 lbs. which arrived a week later.

Despite production which has reached record heights this year, Minneapolis-Honeywell is still faced with the largest backlog of orders in its history, officials stated. Operating what is said to be the largest plastic department in the Northwest, the firm uses 1,800 lbs. of special "electric" powder and 16,000 of all other types weekly.

Refrigeration Will Help Nebraska Air Express Fly Perishables, Flowers

OMAHA, Neb. — The Mor-Fresh Air Express has been formed here to carry perishable foodstuffs and flowers in planes equipped with refrigerated compartments, with L. E. Simpson of Omaha as president, Harold Tompkins of Council Bluffs, Iowa, as vice president, and V. Honey of Council Bluffs as secretary-treasurer. Mr. Tompkins, a former Royal Canadian Air Force pilot, will be at the plane controls the first trip.

The company has purchased two C-47 planes from army surplus stock, and has a third plane spoken for. It plans to operate between Omaha and the Gulf area to start, but expects to expand operations to the West Coast from Omaha later. Seafoods, fresh fruits, vegetables, and flowers will be brought into the Omaha market, while from Omaha late-season vegetables and fresh meats will be flown.

Mr. Simpson said he got the idea while he was fishing in the Gulf last summer. He learned that fresh fish there were worth only four cents a pound, and figured they would have a ready market in the Omaha area at prices which would justify air transportation.

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★ Jointless Type ★



Rome Water Cooled Condenser Coils insure trouble-free condensing equipment. Used by leading compressor manufacturers.

ROME-TURNEY RADIATOR COMPANY
222 CANAL ST.
ROME, N. Y.

Short Orders by the Truckload

Maxson Makes 16 Tons of Frozen French Fried Potatoes Daily

NEW YORK CITY—Frozen French fried potatoes, introduced on the market six months ago as a package item, are being produced at the rate of 16½ tons a day by the Maxson Food Systems, Inc., a company statement has announced.

Already distributed in large cities east of the Rockies, Maxon expects to have nation-wide distribution by mid-July, the statement said.

Inspiration for production of frozen French fried potatoes as a single package item resulted from their use in the Maxson Sky Plate frozen meals served on planes of the Naval Air Transport Service all over the world and to passengers of Pan American World Airways, according to the company.

Maxson declared that these frozen meals will soon be placed before the general public.

First production of frozen French fries in 10 ounce packages began in February in the company's Queens Village plant. Sale of the potatoes were tested with great success in the New York City, Philadelphia, and Washington markets, it was said.

The potatoes, partially cooked before packaging, are finally cooked in the pre-heated home oven for 20 minutes, the firm explained.

As a pioneer in the field, Maxson had to invent and devise its own machinery. The engineering staff of W. L. Maxson Corp., engineers and manufacturers, recently completed three huge machines on Seabrook Farm at Bridgeton, N. J.

Before the potatoes are placed in the machine they are maintained in storage under controlled temperature for several days until laboratory tests indicate they have the required nutritional content, the firm declared.

In describing the preparation of the potatoes, Maxson's statement said:

"The only hand operation is the removal of the eyes of the potatoes. Having been peeled and washed, the potatoes are cut automatically and dropped into a flume which carries them to a revolving drum. Perforations in the drum discard fragments.

"Having been blanched, sliced, inspected, and washed several times, the potatoes drop to a stainless steel belt which carries them into a bath of oil. Temperatures of cooking oil and the period potatoes remain in the oil are controlled automatically.

"From this the potatoes emerge upon racks for draining and further inspection. They are then taken on large trays to the packaging room where they are put up in units of 10 ounces and sped to the quick freezing room."

The engineering staff has found that its system of production has provided a better type of French fried potato, the company asserted.

Canadian Firm Puts Record Berry Pack In Cold Storage

VANCOUVER, B. C.—Fraser Valley Growers, Ltd. officially ceased operations on strawberries, raspberries, blackberries, and loganberries on Sept. 30 with a record pack, according to L. R. Wilson, manager of the Mission plant of this company.

New and increased local cold storage facilities provided for the quick-freezing of a large percentage of the berry pack.

Berries picked in the morning were processed in the plant the same afternoon and placed in a modern cold storage plant within a few hours from the time they were harvested.

Buffalo Forge 65-Cent Dividend

BUFFALO — Directors of Buffalo Forge Co. have declared a dividend of 65 cents a common share, payable Nov. 29 to stockholders of record Nov. 19. Previously this year, the company distributed three dividends of 45 cents a share each. In 1945, dividends of $1.80 were disbursed.

"Frost-Lok Sold Me"

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Add these ...

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... and you have a winning combination that means vast opportunity, assured success to International Harvester Refrigeration dealers.

Every International Harvester Freezer ... the 11-cubic-foot model is pictured above ... will have these six important basic quality features:

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But that's not all ... there's "Frost-Lok" in addition, which, besides all of its other advantages, provides convenient shelf space all around the food storage compartment. Then, there's a live rubber balloon gasket around the lid that closes tightly against "Frost-Lok" to form the perfect freezer seal. And a fascinating cabinet so smartly designed women want it at once. All these ... and more.

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THE INTERNATIONAL HARVESTER SYSTEM OF FOOD PRESERVATION

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AIR CONDITIONING AND REFRIGERATION News

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Published Every Monday by BUSINESS NEWS PUBLISHING CO.
450 W. Fort St., Detroit 26, Mich. Telephone Randolph 0924.

Subscription Rates: U. S. and Possessions, Canada, and all countries in the Pan-American Postal Union: $4.00 per year; 2 years for $7.00. All other foreign countries: $6.00 per year. Single copy price, 20 cents. Ten or more copies, 15 cents each; 50 or more copies, 10 cents each. Send remittance with order.

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VOLUME 49, NO. 17, SERIAL NO. 927, DECEMBER 23, 1946

Heigh-Ho, Heigh-Ho! Away to Work We Go

WHEN John L. Lewis called off his coal strike, the spirits of American businessmen bounced upward almost as much as they did when the warlords of Japan threw in the towel.

Every manager of a business enterprise we've talked with in the last few days—from the vice president in charge of production of a top-rung manufacturing corporation on to the proprietor of the leading independent appliance dealership in a small Illinois city—is grinning like the fabled Cheshire cat, and rolling up his sleeves.

"Now we can *all* get down to earth, and go back to work!" That's what they all say. And these operators and entrepreneurs are now far more optimistic about the future of the country and their own business enterprises than they have been for the last 10 months.

The Republican victory in November was a hopeful sign of a change for the better. But most businessmen were still skeptical about their immediate chances of doing the job they wanted to do, and of being allowed by labor dictators to do the job they were sure they could do.

They were still fearful of another prolonged wave of strikes. But since John L. Lewis has withdrawn his shock-troops from the continuing battle between overprivileged Labor Unions and the underprivileged Public, their fears have almost evaporated.

"Lewis," one overenthusiastic executive told us last week, "is the smartest man in America. He knows full well that the above-the-law powers and privileges which Roosevelt legislation and Roosevelt-packed courts have bestowed upon Unions have led the latter to sow the seeds of their own destruction.

"He rightly assessed the temper of the American people about these abuses. And, to save the union labor movement from destruction, he brought matters to a head. So dramatic was his demonstration that now the rank-and-file union members, themselves, can see that it's time they tried to wash up their own dirty shirts."

New members of Congress believe that they have a clear-and-clean directive from the voters to revise the statutes which encourage labor union dictators to be lawless and to defy the law.

They are all set to break up the Roosevelt-fostered monopolies in this field, just as an earlier Roosevelt broke up financial monopolies.

If it's in the public interest to break up the Standard Oil Co. to limit this corporate giant to half or less of the total volume in its own line of endeavor—then monopolistic unions should be limited similarly.

If one or two union dictators can conspire to shut down a nation-wide industry, they should be penalized as heavily as would the leaders of an industry if they should conspire to throttle production and raise prices.

You can be sure that the tide has turned as to the overbearing powers-to-do-wrong of labor unions. Corrective legislation will soon come to pass.

In the meantime, sobered by John L. Lewis' capitulation, lesser lights in the labor movement surely will lie low—lest the roof cave in on them.

For a few months, at least, it seems likely that American workmen will go back to work—honest work. And that's good news for all of us.



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Advantages of Various Defrost Systems, Automatic and Manual, Are Outlined

By C. Dale Mericle

DETROIT—Water defrost systems, whether manually or automatically operated, are probably the best type for most low temperature refrigeration rooms used for food storage, believes Warren W. Farr, who addressed the December meeting of the Detroit Section, American Society of Refrigerating Engineers.

Mr. Farr operates Refrigeration Sales Corp., a large Cleveland service and contracting firm, and he also heads the National Association of Refrigeration Contractors besides being a director of the A.S.R.E.

In his talk Mr. Farr described some eight different types of defrost systems, including hot gas defrost, two types of brine spray units, an outside air defrost, electrical defrost systems using heating elements or lamps, the Kramer Trenton Thermobank unit, and manual and water defrost systems, pointing out the salient features of each and citing some of the disadvantages which may be found.

In designing a low temperature refrigeration system it is advisable to keep the temperature difference between the cooling surface and the space being cooled to a minimum to reduce the frost formation, said Mr. Farr. And then the defrost system should be as inexpensive as possible, and it ought to be automatic, especially in a food market where a refrigeration maintenance man isn't available to operate it.

Provision should also be made to reduce the moisture content of the air as much as possible before it enters the low temperature room, he said. This can be done by incorporating into the design an anteroom fitted with a large coil operating at about 36° F. on a defrost cycle.

An early method of defrosting was the hot gas system, which was applied to the room cooled by means of long pipe coils. By circulating hot, compressed refrigerant through the coils, they were defrosted.

Several Drawbacks

There were several drawbacks to this system, according to Mr. Farr. An operator was needed, because the system was manually controlled and had to be carefully watched. The refrigerant was apt to condense in the coils and slug the compressor. Also, the water and ice which dropped off the pipe coils during defrosting had to be caught in pans or canvas troughs. All in all, said Mr. Farr, this early system was very expensive.

As the refrigeration industry developed other types of evaporators such as air blast units, methods of defrost changed. In brine spray forced air cooling units, for example, excess moisture in the air was picked up by the brine spray and carried to a sump in the bottom of the unit.

If the specific gravity of the brine was watched and carefully maintained, this unit could give very efficient and frost-free operation, he declared. It was, however, somewhat difficult to keep the brine spray out of the cooled space, and, further, such systems were expensive enough to confine their use to rather larger systems.

In ice cream hardening rooms there have been defrost installations in the past which employed outside high temperature air, continued Mr. Farr. In these jobs the unit was placed up against an outside wall with a duct running through the wall. By means of a damper arrangement, warm outside air was brought in to defrost the coil.

This system was not very successful, he said, pointing out that in the summer months, for example, the outside air might be so moisture-laden that the coils would become frozen solidly with ice, completely stopping the air passages. It was also necessary to insulate the units heavily to keep the warm air in the unit from heating up the hardening room during defrost. Today, he said, most of the units have disappeared.

The manual water defrost system, described next, is "in my opinion, one of the most satisfactory manual defrost systems," declared Mr. Farr. It is widely used today on large systems and small ones, even those down to 3,000 B.t.u./hr. It is similar to the brine spray unit, but it requires no pump.

A typical installation employs a 3-way water valve. When this valve is "on" water is sprayed on the coil. When the valve is "off" water flows to the sewer to prevent the drain from freezing. The cooling system is off, of course, during the defrosting period, which usually requires only 10 minutes.

While this manual water defrost system is not quite so efficient as the brine spray system and it does require the attention of an operator, it is very simple and there are few maintenance problems involved, according to Mr. Farr. It likewise doesn't raise the room temperature.

Water drains must be provided, and it is advisable to cover the pipes, said Mr. Farr, who also suggested using plastic tubing or neoprene hose for the lines that must go through insulated walls to keep heat infiltration at a minimum.

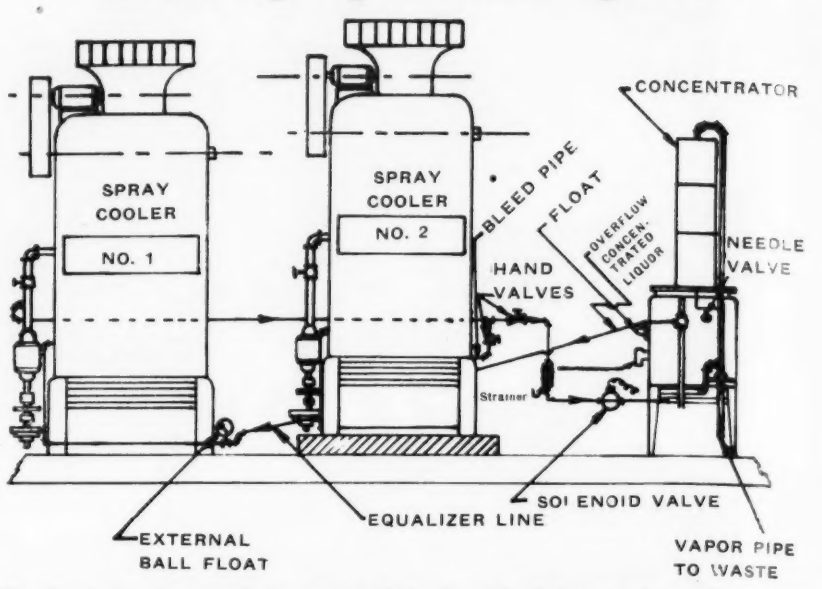
There are several methods of achieving defrost through electrical systems, using heating elements or heat lamps, or in some jobs immersion heaters. Generally, believes Mr. Farr, these systems are rather expensive. The wiring is apt to be sizable, and it must be in vapor-proof sealed. The life of heater elements is also rather short, because they are operating in an extreme range of from -30° F. to 400° or so, he said.

Kramer Trenton's Thermobank system was described in some detail by Mr. Farr, who said that while this has numerous advantages, it is somewhat expensive to install.

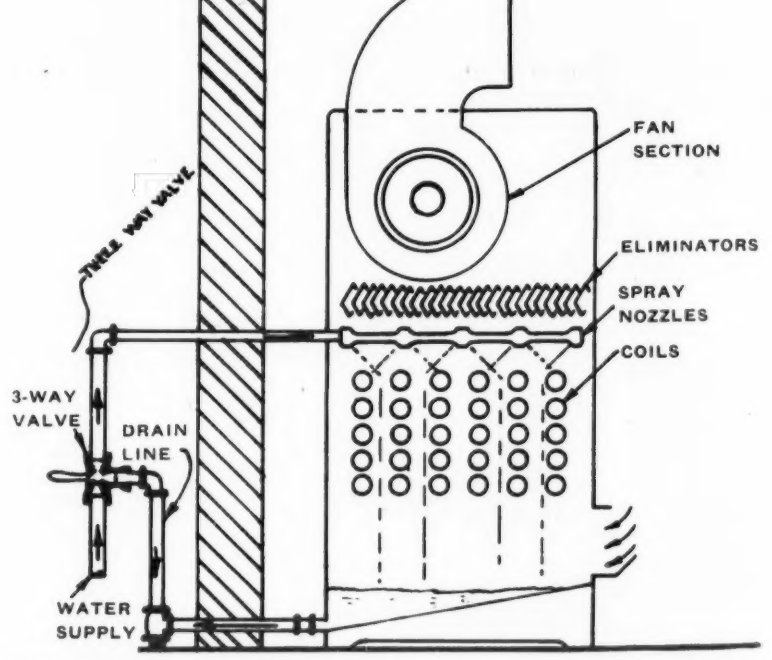
An automatic type brine spray unit of the modern type shows great

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Brine Spray Defrost System



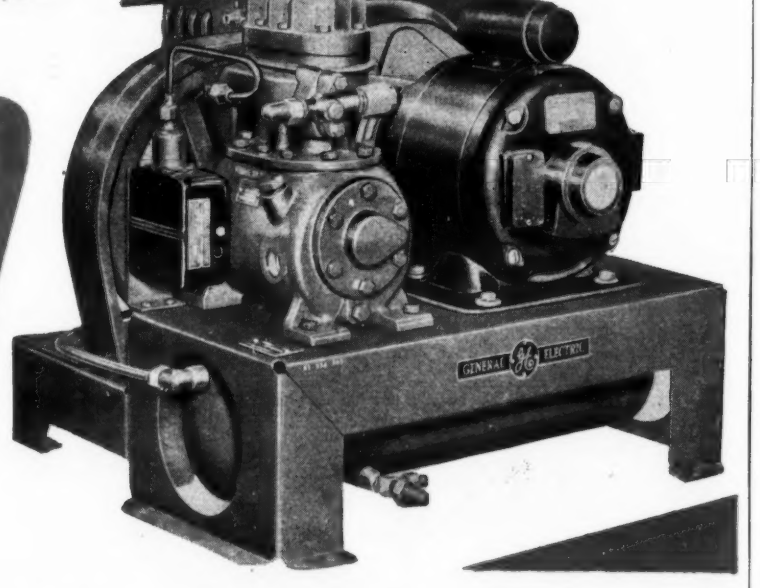
No frost is permitted to accumulate in this brine spray unit hookup which features a "concentrator" designed to automatically maintain the specific gravity of the brine at the required point.



Manual water defrost systems, such as the above, are widely used. When turned "on," the three-way valve sends water down over the coils to defrost them. When "off" the valve sends water through the drain pipe to prevent its freezing.

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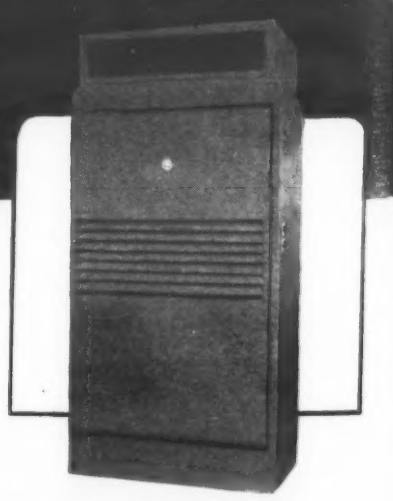
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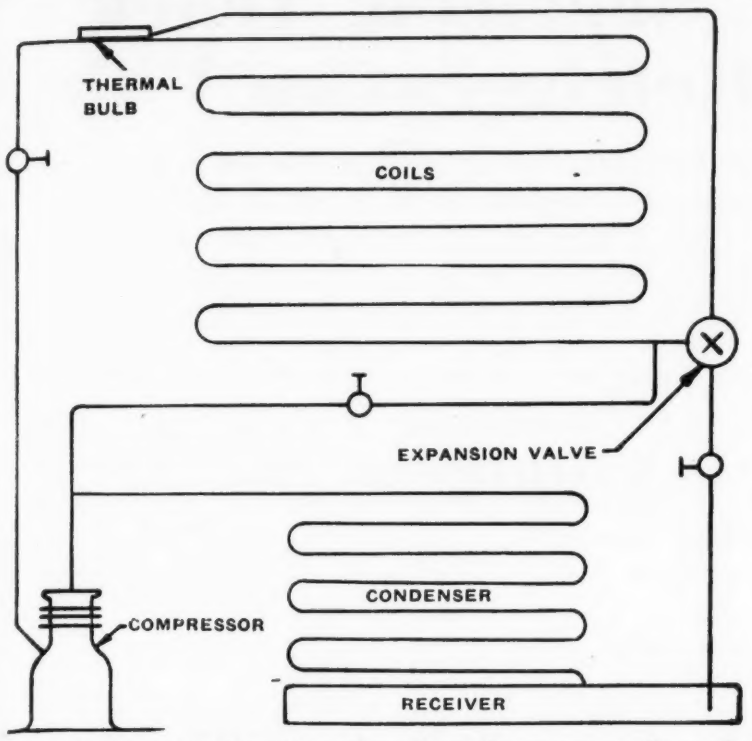
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Hot Gas Defrost Used In Early Days



In the early days of refrigeration when pipe coils were generally employed, defrosting was sometimes obtained by means of a manual hot gas hookup similar to that shown above.

* * *

Automatically Controlled Water Defrost Systems Are Most Efficient, Says Farr

(Concluded from preceding page)

improvement over early models, he continued. Essentially, this system provides a constant recirculation of the brine-defrost water mixture from the spray unit to a still or "concentrator" where the specific gravity of the brine is automatically brought back to its required point.

The brine spray and defrost water falls into a sump at the bottom on the unit. By means of a float valve hookup, the brine-water mixture is pumped into the concentrator where the water is boiled out, steam or electricity usually providing the source of heat. The brine used is a "neutral" one of the ethylene glycol family. There is very little loss of the glycol in the operation of this system, he said, and it can be used in almost any sub-zero job if the installation is large enough.

Considerable maintenance is required for this type of system, emphasized Mr. Farr. The brine spray picks up dust from the air which may be deposited in the heat exchanger and needle valve of the concentrator. Frequent cleanings are required, and it is not easy to clean out off this dirt after it has been baked on.

Automatically controlled water defrost systems are the simplest and among the best methods, according to Mr. Farr.

"It is the cheapest form of automatic defrosting on the market today for large or small systems, where there is an available supply of water at 50° F. or above," he said.

A spray header is usually controlled by a solenoid actuated by a timer cam so that water is sprayed on the system at predetermined intervals when the condensing unit is shut down. This usually requires from six to 10 minutes. Although it is necessary to have drain connections, the advantages of this system, said Mr. Farr, include the use of a minimum of refrigerant line fittings, and the absence of any overload on the compressor. There may be a slight rise in temperature in the room during defrosting.

In operation, the timer cam turns off the fan and compressor motors and opens the solenoid valve in the water line. At the end of the preset defrost period, the timer cam closes the solenoid. About two minutes are allowed for the water to drain out before the cam starts up the fan and compressor motors.

"No one defrost system is the answer to all the jobs," stated Mr. Farr.

More Use of Polystyrene By Industry Seen for '47

SPRINGFIELD, Mass. — The refrigeration industry, which in 1940 first made extensive use of polystyrene plastic in household units, is expected to use upwards of 8,000,000 lbs. of the molding material in 1947, according to A. C. Martinelli, sales manager for thermoplastic molding materials at Monsanto Chemical Co.'s Plastics Division here.

Initial uses of polystyrene in the household refrigeration field were pioneered by Monsanto in 1939 with its introduction of Lustron, a styrene base plastic, it is reported. Today there are a dozen applications for the material in refrigerators, including lamp shields for interior lights, control panels, knobs, doors for ice cube compartments, door handles, shelf supports, various other compartment doors, drip trays, bezels, and escutcheons.

Polystyrene's tendency to become stronger and tougher as the temperature drops influenced its selection by refrigeration manufacturers, Mr. Martinelli said. Other factors suiting it to this type of application, he added, are that under contact with food acids, cleaning agents, varying humidity, and low temperatures, styrene does not warp, discolor, or deteriorate, and that at a base price of 25 cents per pound, it is the lowest cost molding material available.

Polystyrene is a thermoplastic molding resin that is made by reacting two organic compounds—benzol and ethylene. A laboratory phenomenon for over 100 years, it was first commercially introduced as a plastic molding material in 1937. In that year less than 100,000 lbs. were produced and consumed in the United States. During 1947, the plastics industry expects to produce upwards of 200,000,000 lbs.

Indicative of the increase of the use of styrene in the refrigeration field are the figures recently made public by Westinghouse, according to Mr. Martinelli. "In 1940, Westinghouse used no styrene for refrigerators," he said. "The company will consume more than 200,000 lbs. of the material in 1946."

Building Remodeled for Use By New Refrigeration Firm

NEW CASTLE, Pa—The remodeling of a building here for the purpose of operating a roofing, refrigeration, and air conditioning business by Paul D. Weiler and Lee Augstine, recently discharged veterans, has started.

Arnold Wholesale Corp. Appoints Eugene E. Hug, Doyt Bricker to Sales Staff

CLEVELAND — Eugene E. Hug and Doyt E. Bricker are two recent additions to the sales staff of the Arnold Wholesale Corp., reports Robert C. Hager, president.

For the past 11 years Mr. Hug was merchandise manager of the Sears Roebuck & Co. of Cleveland. For one year prior to this he was a salesman in the automotive radio division of Strong, Carlisle & Hammond Co.

Mr. Bricker's experience in the personal finance field is quite extensive, having been a special representative of the City Loan Co. of Lima, Ohio for five years contacting manufacturers and distributors, and 10 years with Ohio Finance Co. and Commercial Credit Co.

Bacon Electric Co. Sold

PHOENIX, Ariz.—Sale of Bacon Electric Co., Third and Roosevelt Sts. by Guy L. Crippen to Mrs. B. E. Greatman and Peter Davidson, has been announced. The company, located in a newly constructed building, markets appliances.

PURO ELECTRIC WATER COOLERS

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Send recent photograph and comprehensive outline of background and experience indicating previous earnings.

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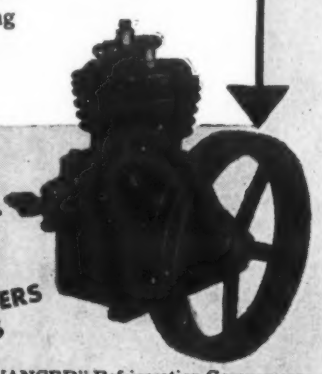
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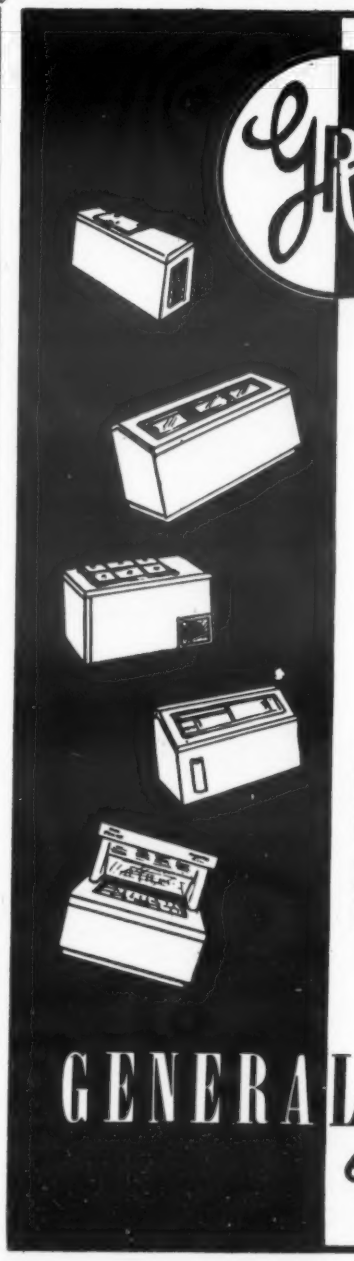


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Holiday Greetings

Everhardus Appointed To Nash-Kelvinator Post

DETROIT — Appointment of Herman Everhardus as assistant director of industrial relations of Nash-Kelvinator Corp. was announced recently by D. C. Rulo, industrial relations director.

For 25 months during the war, Mr. Everhardus served as personnel officer for an Army Air Forces basic training unit stationed at Sheppard Field, Tex.

After graduation from the University of Michigan in 1934, Mr. Everhardus joined the coaching and teaching staff of Penn State College. From 1937 to 1942, he coached and taught at Detroit University School.

HEAT TRANSFER EQUIPMENT
MARLO
COIL COMPANY
SAINT LOUIS, MISSOURI

New Niagara Furniture Co. Store Handles Appliances

NIAGARA FALLS, N. Y. — The Niagara Furniture Co. has opened a new store at 1705-1707 Pine Ave. with a complete line of electrical appliances. The store is located in a new three-story building containing 15,000 ft. of floor space. The company is owned by Barney Blumoff, Gordon Stacey, Edward D. Miller, and Dominic Falcone.

Bigger Locker Plant Will Rise from Ashes of Old

FORT WORTH, Tex. — A locker plant to replace the Burleson Farmers' Co-operative locker storage plant destroyed by fire Aug. 5, will be built as soon as plans can be completed and materials obtained.

The directors have been authorized to purchase the former building site, which was rented.

According to Jack Taylor, chairman of the board, the new plant will be built to accommodate 500 lockers and will contain a pork-room, killing floor, knocking pen, and lard rendering equipment. A poultry killing and cleaning department will also be installed. The former plant, built early in 1945, contained 300 lockers.

Vacuum Cleaner Mfrs. Shipped 654,000 Units During Third Quarter

WASHINGTON, D. C. — Vacuum cleaner shipments continued to rise throughout the third quarter of 1946, according to the Bureau of the Census. Total shipments for the quarter were given at 654,000 units, valued at $18,700,000. This figure brings the nine-month total to 1,600,000 units, valued at $44,600,000.

Monthly shipments for each of the three months of the third quarter realized a 10% gain over the preceding month. Total for September was 240,000 units valued at $6,900,000.

Hand vacuum shipments reached 23,000, valued at $214,000, during the third quarter, representing only 3% of the total. September shipments of this style reached 10,000.

During the same period 52% of the standard type shipped were tank type and 48% were bag type, according to the Census report. Tank type shipments numbered 331,000 representing $10,600,000, while there were 300,000 bag type models shipped with a valuation of $7,900,000. Shipments in both of the classifications reached postwar highs in September.

Monthly production, the Bureau revealed, kept pace with the upward swing of shipments during the third quarter, exceeding shipments by 5,000 units. Production in September also set a postwar record, climbing to 254,000 units.

Factory stocks of vacuums amounted to 80,000 units at the end of September.

Bendix Program Retrains 25,000 Retail Salesmen

SOUTH BEND, Ind. — Retraining of retail salesmen on a national scale has been begun by Bendix Home Appliances, Inc., under the direction of N. D. Craighead, assistant sales manager, and A. C. Olander, retail merchandising manager.

With the refresher course for 161 trainers completed, field classes for 25,000 persons who sell the Bendix automatic washer will be concluded by Feb. 1, Mr. Olander said.

Distributors for Bendix Home Appliances, Inc., have been hosts in 18 cities to sales managers, Bendix wholesale men, and field sales trainers for nearby distributors. In turn, the trainers have begun classes for retail salesmen, in groups of 20, in central locations throughout the United States.

Meetings for training sales trainers were held in Louisville, Cincinnati, Indianapolis, Memphis, St. Louis, Los Angeles, Phoenix, San Francisco, Seattle, Spokane, Billings, Portland, Ore., Salt Lake City, and South Bend. Sessions for schooling additional sales trainers will be held in Dallas, New Orleans, Atlanta, Washington, New York, Boston, Syracuse, Cleveland, and Pittsburgh through the month of December.

Servicing Truck Refrigeration Units

Editor's Note: Actual questions received from owners and operators of refrigerated trucks, as well as service men, give a pretty fair cross section of some of the problems encountered in the field. The equipment involved in these particular questions is the Trail-Aire unit manufactured by Advance Mfg. Co., from whose files these actual problems were obtained. This series was prepared with the cooperation of Henry O. Kirkpatrick, chief engineer of Advance.

Instalment No. 13

'Field Heat' In a Refrigerated Trailer

Question: We purchased our unit in February and it really worked fine for the first six weeks. We loaded it with hot fruit and vegetables and the machine would pull it down to about 36° F. in a few hours. Since that time we have had plenty of grief with it. The lowest temperature we get now is about 55° to 60° F. In fact, the air outside the trailer at night is sometimes lower than that inside the trailer.

We are hauling fruits and vegetables in a 32 ft. tandem trailer. Most of the time these vegetables are loaded hot. We have been topicing some to help the unit take out the field heat. Wish you could tell us what we can do to this unit to get full efficiency. Thought we might put a larger pulley on the motor and get more refrigeration, but we did not want to do this until we had talked to the salesman.

Answer: This unit was not designed to take the field heat out of produce. It has a rated capacity of 18,000 B.t.u./hr. at a 20° F. evaporator temperature and an ambient of 100° F. This capacity permits one to successfully maintain the temperature of a load at its loading temperature.

In all probability, when this unit was delivered and placed in service in February, the outside temperature along with the load temperature was down in the higher 40's or the lower 50's. Under these conditions where the product load was small, the heat loss practically nil, and the air passing through the condenser at a very favorable temperature, the unit did lower the temperature of the product to about 36° F. in a few hours.

However, as the weather became progressively warmer, resulting in warmer loads, the unit efficiency seemed to drop off and the user became dissatisfied with the results.

A 32 ft. trailer is capable of carrying 30,000 lbs. of produce. Assume the loading temperature of green beans, for example, to be 80° F. with a specific heat of 0.92, load to be cooled to 40° F. in 12 hours. By calculation we learn that the product load is 92,000 B.t.u./hr. It follows that a machine will have to have a heat removal capacity of 92,000 B.t.u./hr. to handle the product load in this instance.

The unit in question, as mentioned above, has a heat removal capacity of 18,000 B.t.u./hr. Therefore, it falls short of the unit size needed by some 74,000 B.t.u./hr. The salesman who sold this particular customer the standard unit did a fine job of over-selling and thereby created a dissatisfied customer.

Effect of High Humidity?

Question: In May we delivered a trailer equipped with a Trail-Aire conditioner to a customer. The same thing has happened to this that happened to the first one we delivered to a frozen food firm. The owner has to remove the moisture. He has only made one trip to Florida and he could not get this below 50° F. We are wondering whether the high humidity in the air surrounding the unit could have any bearing on this moisture trouble we are experiencing?

Answer: We believe the moisture trouble in the unit can be corrected by the installation of a new dehydrator. In a few isolated cases we have found that moisture plugged the dehydrator on jobs after they were in the field a short time, and in these cases the installation of a new dehydrator did correct the trouble. In rare instances it was necessary to install a third dehydrator to correct the moisture trouble.

At any rate, this procedure will be far less costly to the customer than to "vacuumize" the whole system and the results in both cases will be the same.

We want to point out that moisture in the atmosphere surrounding our unit has no effect on the moisture content of the unit. In the absence of a leak, there is no possible way for moisture to get into the unit after it is charged at the factory.

Oil Leaks Out of Seal on Compressor

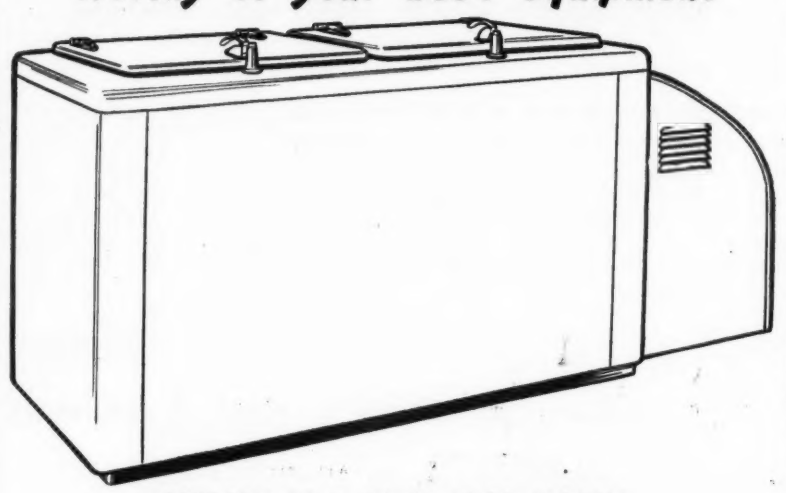
Question: Confirming our 'phone conversation this morning pertaining to the compressor seal trouble that our distributor has had on a unit which has been in service three weeks and on which the compressor seal has been leaking.

Will you check to see if it would be possible to install an oil separator on this unit to prevent the oil from running out of the seal, which sometimes happens in extremely cold weather or if the unit has been standing idle for any length of time?

Answer: We have received a copy of your letter pertaining to seal trouble with a compressor. We have also been informed that the head was blown off this compressor while the service man was charging the unit with refrigerant.

(Continued on next page)

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Worthy of your BEST Equipment



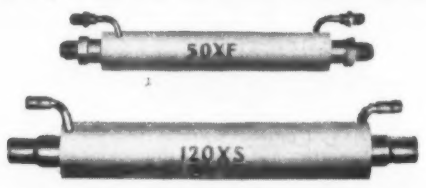
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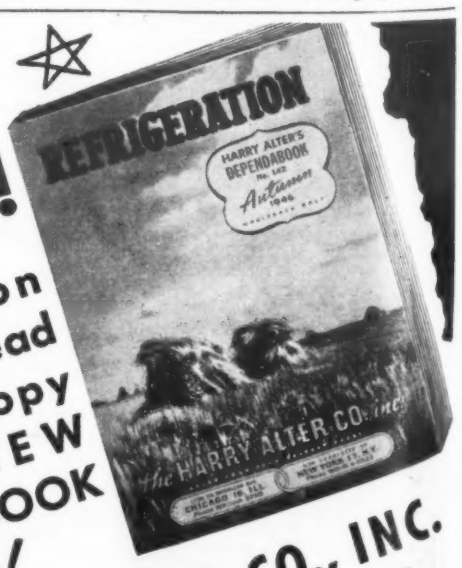


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Servicing Truck Units (Cont.)

(Concluded from preceding page)

One reason for seal leaking would be lack of sufficient oil in the crankcase. If this is the reason, then the service man should have added some oil to the compressor after changing the seal. Please have the service man check this at once if he has not already done so.

Another reason could be improper expansion valve setting when on the heating cycle. This would show up in the oil leaving the crankcase and failing to return.

We know from experience in our own shop that there are only three reasons why the head of a compressor would be blown off. These are:

1. Either the hand valve in the discharge line or the discharge service valve was left closed when the unit was started;
2. Liquid refrigerant was poured into the compressor while charging the unit; or
3. There was an overcharge of refrigerant.

Any one of the above three reasons will invariably cause the head to blow off the compressor of our unit due to our gasoline engine's having an excessive amount of horsepower.

Based on our experience, we must assume that the service man was negligent in this case and either did or did not do, as the case may be, one of the three things outlined above. If we are wrong in our assumption, please do not hesitate to correct us.

Head Blew Out While Adding Oil

Question: We have your letter (see above) and this morning we called in the mechanic from the refrigeration company who has been servicing the unit in question. We discussed with him item for item the possible causes for trouble as outlined in your letter.

With regard to the leaking seal condition, the mechanic informed us that there was sufficient oil in the crankcase and that their bill shows a charge for 3 lbs. of 250 vis. oil at the time the first seal was replaced. Therefore, we are quite sure that this item was well taken care of.

As to the damage to the compressor, the mechanic has assured us that the valves in question were open and that the head blew out while he was adding oil to the crankcase and before he had started to recharge the compressor with refrigerant.

We are sorry that we cannot be more specific about this damage in a technical manner, but the mechanic from the refrigeration company was unable to offer any explanation for this difficulty other than the fact that while adding the oil to the compressor, a small piece blew out of the head and he was showered with a bath of crankcase oil.

Answer: We are glad to hear that it was not lack of oil that caused the seal to go bad.

As for the head "blow out" trouble, the service man by his own statements to you as written in your letter, has told us exactly what caused the head to blow out. The compressor that is used in this truck unit is of the valve-in-head type, so the suction vapor does not pass through the crankcase as it is drawn from the suction line into the cylinder.

Inside the suction port of the compressor there is a very small opening connecting the port to the crankcase. This opening is just large enough to allow the normal amount of oil returning to the compressor to drop by gravity into the crankcase.

Therefore, oil *cannot* be added to the crankcase by running the compressor on a vacuum with a line from the suction shut-off valve immersed in a container of oil.

When the design of this compressor is understood, one can readily see that when using the above mentioned method to add oil, the oil will be pumped into the high side of the system as fast as it is drawn into the compressor.

Here is what happened in this case: The service man turned the suction service valve all the way in, attached a ¼ in. O.D. tube to the suction service valve port. The other end of this ¼ in. line was inserted in a container of oil. The unit was started and the oil was being drawn in by the vacuum of the compressor.

At this point the compressor, which is designed as a vapor pump, became a hydraulic oil pump. Due to the discharge port sizes, something had to let go. The head, being the weakest point, naturally blew out.

Please point out to the service man that the proper procedure to follow in adding oil to the compressor is as follows:

Pump the crankcase down to 0 lbs./sq. in. gauge. Balance the pressure. Remove the plug in the top of the crankcase. Pour in the required amount of oil. Under no circumstance should anyone add more than 3½ pints of oil to a Trail-Aire unit, except to replace oil lost by leakage.

Refrigerant Seems to Be Leaking from System

Question: This unit was charged two months ago and was returned today out of gas. After recharging the unit and thoroughly checking it, we find that there is a leak in the seal in the front end of the compressor. Would you advise installing a new compressor or a new seal in this unit?

Answer: This unit apparently developed a leaky seal shortly after being in service. Seal leaks are sometimes hard to detect, and considerable pressure must be present for them to show up in some cases. We suggest that when you find a unit out of gas that you first locate the leak and repair same before recharging with gas. This will save you a lot of time and gas. We believe a replacement seal will correct this trouble.

Thermostat Appears Faulty

Question: This unit apparently has a bad thermostat control. If the dial is set to correspond with the trailer temperature above 40° F., it will then be from 10° to 15° off at 20° F. and vice versa if set at 20° F. We contacted the ——— agency here, but they do not carry a three-pole thermostat in stock. Will you please ship a thermostat for this job?

Answer: The troubles of this unit are not quite clear from your letter, although we believe you mean to say that the thermostat does not correspond to the thermometer, in that if you set the thermostat at 40° F., it will stop the unit when the thermometer registers either 25°, if off in that direction, or 55°, if off in this direction.

In a case like this, our procedure would be to first test the thermometer by immersing its bulb (located at the inlet to the evaporator coil) in a mixture of crushed ice with just enough water in it to cover the ice. The temperature of this mixture will be 32° F.

If the thermometer reads other than 32° F., remove the glass, remove the needle, and reset at 32° F. Then remount the thermometer bulb and pull the temperature down to 32° F. in the trailer and adjust the thermostat until it stops the unit, disregarding the thermostat dial when this is done.

If the thermostat dial does not indicate 32° at this point, you should remove the cover of the dial and set the dial at 32° without changing the switch setting. This sounds a bit drawn out and complicated, but it is a relatively simple process once you get into it.

(To Be Continued)

Bendix Appointee



ROBERT J. McDONALD

• • •

McDonald Is Named to Manage Ironer Division

SOUTH BEND, Ind. — Robert J. McDonald has been appointed manager of the ironer division for Bendix Home Appliances, Inc., according to W. F. Linville, general sales manager.

His promotion to the sales executive staff at South Bend follows a year's experience as the manufacturer's field representative in the Middle Atlantic division, with his headquarters located in New York City.

New G-E Home Planning Booklet Covers Heating, Air Conditioning, Kitchen and Laundry Layouts

BRIDGEPORT, Conn. — "Planning Your Home for Better Living—Electrically" is the name of a new 64-page full-color illustrated booklet to be issued soon to General Electric dealers for consumer distribution.

Aside from sections devoted to heating and air conditioning the home, the booklet primarily concerns itself with the design and outfitting of the two most vital work centers in the modern home—the kitchen and the laundry.

Whatever basic floor plan the kitchen follows (U-shaped, L-shaped, Two-Wall, or One-Wall) the design must revolve around the refrigerator, range, and sink, as well as the home freezer and the automatic water heater, the booklet maintains. Adequate built-in lighting for all appliances is likewise a "must" if optimum performance is desired. Color illustrations show several package kitchens, emphasizing step-saving layout.

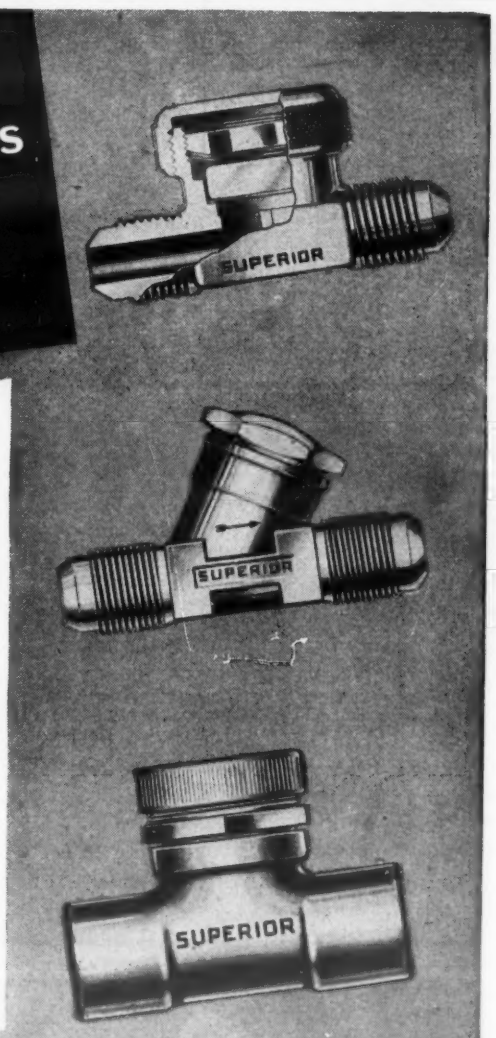
In the modern laundry, arrangement of appliances is similar to that followed in the kitchen. What the home-maker must first decide, however, is whether she desires a standard laundry or an automatic laundry. If it's the first of these, she'll need to plan for an automatic water heater, washer, and a rotary ironer. Components of the automatic laundry include an automatic washer, tumbler dryer, and flatplate ironer.

The solution of the heating problem involves first the choice of fuel, secondly the type of heating system. For those desiring oil as a heating fuel, the G-E booklet suggests the firm's oil-fired boiler for new installations or the conversion oil burner in homes where some other type of heating fuel has been used heretofore.

Supplementing automatic heat, the firm's warm air conditioners also provide the home with humidity control and filtered air circulation. These air conditioners are made in both oil-fired and gas-fired models.

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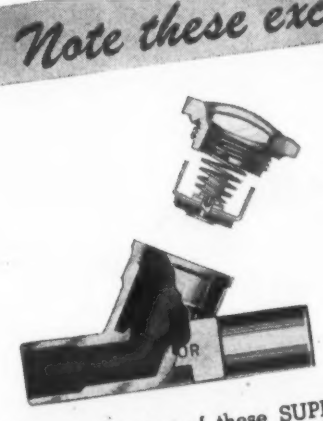
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"Non-Chattering" CHECK VALVES
AND
LIQUID INDICATORS



SUPERIOR CHECK VALVES—unique design, positive acting, spring-operated—cannot chatter, hum or buzz under any normal operating conditions. Pressure drop is negligible. Install one in the suction line of each low temperature circuit of all low temperature jobs—your assurance of maximum performance and trouble-free operation.

SUPERIOR LIQUID INDICATORS—call them liquid indicators, sight glasses, or refrigerant shortage detectors—one should be installed in the liquid line of each system. Seal cap over sight glass is double assurance against damage and leaks.

Note these exclusive features



The novel design of these SUPERIOR Check Valves permits the easy removal of all internal parts—**as a unit**—while soldering lines to valve connections, or for subsequent inspection.

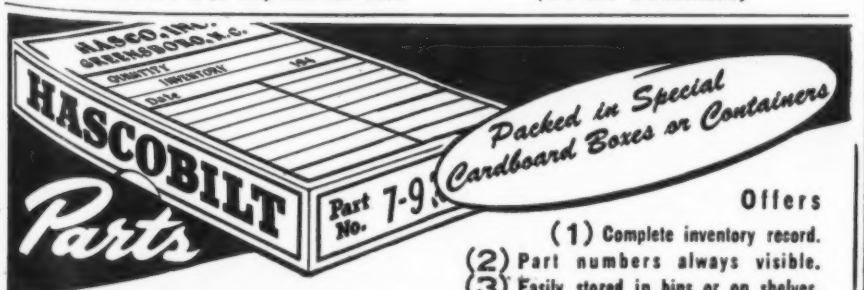


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No. 119

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Philco Matches '45 Dividends

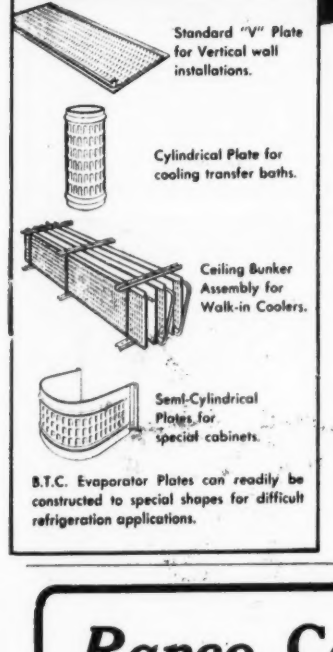
PHILADELPHIA — The board of directors of Philco Corp. has declared a year-end dividend of 20 cents per share of common stock.

This year-end dividend brings total payments for 1946 on the corporation's common stock to $1 per share, which was the amount paid in 1945.

Trio Opens a Florida Dealership

JACKSONVILLE, Fla. — The Secretary of State has issued a charter to Fletcher Sales Co. here, to deal in electrical appliances under authorized capital of 45 shares, no par value. The principals forming the company are reported to include Abe Fletcher, Salon Freedman, and Ben Fletcher.





No large vapor bubbles persist to lessen the efficiency of B.T.C. Evaporator Plates.

The exclusive gridiron design of B.T.C. Evaporator Plates provides for greater turbulence of the refrigerant which quickly breaks down large vapor bubbles and permits the prime surface to operate at peak efficiency.

B.T.C. "Cross-Flow" system affords multiple paths for unobstructed and equal distribution of the refrigerant. The resultant low pressure drop means greater heat absorbing capacity and trouble-free refrigeration. Because of the "Cross-Flow" full flooding, the entire plate is prime surface and every square inch is refrigerating.

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BREWER-TITCHENER
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BINGHAMTON, N. Y.

BTC
EVAPORATOR
PLATES

Refrigeration Problems
And Their Solution

By P. B. Reed

For Service and Installation Engineers



Manager, Refrigeration and Air Conditioning Division, Perfex Corp.

Electric Currents (1)

Many refrigeration service engineers, perhaps most, are rather weak in their knowledge of electrical equipment and ordinary electrical circuits. Most of their work deals with the mechanical side of the equipment, with the compressor itself, its valves, bearings, lubrication and seal, with the belts and pulleys, with the refrigerant flow controls, expansion valves, float valves, solenoids and check valves, with the tubing and fittings and with electrical controls, pressure controls, temperature controls, thermostats, overload and starting relays and the like.

Even in the case of the electrical controls, the troubles, many times, are of a mechanical nature and are caused by worn or broken parts.

Moreover, city codes, regulations, and other influences tend to channel the electrical work about refrigeration equipment away from the refrigeration service engineer.

So there are valid reasons tending to discourage the refrigeration service engineer from being an electrician, and yet there are more reasons why he should not only know more about the electrical side of the refrigerating systems on which he works, but he should also know more about the methods in common use for distributing electricity, for measuring it, and for safeguarding people and property.

A reasonably good knowledge of these things does not mean that the refrigeration service engineer must be an electrician nor that he shall do work that an electrician normally does. It will, however, enable him to save a lot of time, trouble, and money if he can recognize and know what to do about some of the common electrical ailments.

A knowledge of electrical work will enable the refrigeration service engineer to properly diagnose trouble traceable to electrical faults. Many motors have been removed as defective or overloaded and many compressors have been removed as "stuck" when the real trouble was simply low voltage.

KNOWLEDGE OF ALTERNATING CURRENT MORE IMPORTANT

Although there are two kinds of electrical current, direct and alternating, the refrigeration man comes into contact with direct current equipment so rarely that he does not need to know much about direct current equipment. It is the kind supplied by batteries and d.c. generators and is used in the downtown sections of a few of the large cities, small plants serving hotels, hospitals, institutions, a few industrial plants, and mines, and aboard some ships.

Even in those applications it is fast being supplanted by alternating current, the kind that furnishes the nation's light, motor power, electrical cooking, and the many industrial uses of electricity.

60 CYCLES EQUAL 120 ALTERNATIONS

Direct current flows in one direction, therefore it has a "positive" and a "negative" terminal. Alternating current does not have a positive and negative for it changes direction rapidly in the same wire, that is, it alternates. In this country nearly all of our electricity is 60 cycle, for it alternates or changes direction 120 times in each second. A cycle consists of two alternations; first, the current flows in one direction, then the other, then back to the original direction, and thus goes through a complete cycle.

All of our alternating current, or a.c. as it is called, comes from generators driven by steam, hydro, or other "prime movers." In this a.c. generator are magnets and generating coils. As the coil moves through the magnetic field of the magnet, a current is set up, or "induced" in the coil. This current flows in one direction as one side of the coil passes through the field and then reverses and flows in the opposite direction in the coil as the other side of the coil passes through the magnetic field, and thus a complete cycle is caused.

HOW THE NUMBER OF CYCLES HAPPEN

Suppose that the generator has four "poles" or magnets and it is being driven at 1,800 r.p.m., then 1,800 divided by 60 cycles equal 30 revolutions per second. Four coils, therefore, give 120 alternations per second or 60 cycles per second, so "60 cycle" current is produced.

If a four pole generator is driven at 1,500 r.p.m., then 50 cycle current is generated, for the number of cycles, times two (the number of alternations per cycle), times 60 (seconds in a minute) and then divided by the number of poles, gives the speed of the generator in revolutions per minute.

TRUE FOR INDUCTION MOTORS, TOO

This holds true for "induction" type motors:

$$\frac{2 \times \text{No. of Cycles} \times 60}{\text{No. of Poles}} = \text{r.p.m.}$$

This comes out in even hundreds, for example, 1,800 for a 4 pole, 60 cycle motor, whereas the actual speed is about 1,725 to 1,750 r.p.m. The difference is due to the "slip." If an induction motor has little slip, 3 to 5%, it can carry loads that vary as much as from 20% to 150% of full load with very little change of speed.

CONSTANT SPEED, LOW STARTING TORQUE

These are suitable for driving refrigerating compressors where constant speed with varying load is desirable, but they do not have very much starting torque.

Motors with high slip, such as elevator motors, have "poor" speed control, but better starting torque.

3 CURRENTS IN 1 GENERATOR

If the generator is built with a single set of coils, whether there are 2, 4, 6, or 8 of them, then it would generate just one current or as it is known, one "phase." The generator can be and usually is, built with three sets of coils so that it generates three currents or what is known as "three phase." The timing of these three currents is spaced so that they follow one another at equal intervals.

If it is 60 cycle current then the cycles of each phase are 1/80 of a second apart. Then the second phase follows the first, 1/3 of this or 1/180 of a second, and the third phase 1/180 of a second after the second phase.

THREE PHASE DISTRIBUTION

These three phases come from the generator and are distributed by three wires so there is one phase between any two of the three wires. Thus "three phase" consists of three separate phases, each following the others at regular intervals.

If an induction motor is built with one set of coils it is a single phase motor and will run on single phase current of the proper characteristics, or it will run on one of the three phases of three-phase, again providing that the characteristics are correct.

If an induction motor is built with three sets of coils for three phase it is a three-phase motor and must have three-phase current of the proper characteristics to run it. Actually, most three-phase motors will run on single phase if they are brought up to speed with all three phase and then two of them disconnected, but it will have very little power and in fact may burn up, due to currents circulating inside the motor. This is called "single-phasing" and must be protected against.

CURRENT CHARACTERISTICS

"Proper characteristics" were mentioned above. By this was meant the correct number of cycles (this is referred to as "frequency") and the correct "voltage." These must be correct, if they are not, the motor will either not run at all or if it does, will not carry the proper load or will be damaged.

VOLTAGE IN VOLTS

Voltage is the "pressure" of the electricity. It corresponds to the pressure of a gas. Even though there is no gas flowing in the system and the compressor is idle the pressure is there. The same with electricity; the voltage exists even though no current is flowing.

Voltage is measured in "volts." Common voltages are 110 for lighting and small motors and 220 and 440 for power and industrial purposes.

CURRENT IN AMPERES

The rate of flow of the electricity is measured in "amperes." It can be measured only as electricity is being used. It is measured by an ammeter which goes *in* the line while voltage is measured by a voltmeter which goes *across* the line.

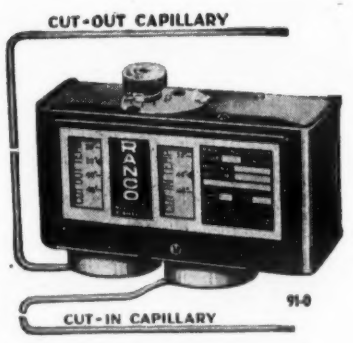
Some generators produce the electricity at the voltage at which it is to be used, say 220 volts. Others produce the electricity at a higher voltage, say 2,200 voltage and then it has to be reduced to 220 or 110 volts in order for it to be used in devices wound for those lower voltages.

This illustrates the one outstanding advantage of alternating current: it can be reduced or increased in voltage very easily and with very little loss, and is thus very flexible for many uses.

Moreover, by raising it to very high voltages, 33,000 volts, 66,000 volts, or even higher, it can be transmitted over long distances with very small line losses. This is not true of direct current.

(To Be Continued)

Ranco Control 91-0 Saves Users Money
By *Better* Protection of Perishables



Exclusive interlocking two-temperature control makes Ranco 91-O the ideal installation for walk-in coolers, florists' boxes, display cases, etc.

Uniform fixture temperature and uniform high relative humidity are assured. Defrosting is completely automatic, regardless of weather or load conditions. For either natural or forced convection units.

Ask Your Jobber for More Details

Ranco Inc. COLUMBUS 1, OHIO



U.S. Suit Attacks Bendix-Telecoin Setup; Sayre Replies to Complaints Filed by Gov't

(Concluded from Page 1, Column 5)

division. declared that the Bendix distribution system unduly restricts the right to resell and use Bendix machines. It imposes unreasonable conditions, restrictions, and charges on persons engaged in the business of renting automatic washing machines to the public, and it unreasonably excludes persons from such rental business, he adds.

Tom C. Clark, U. S. attorney general, stated, "One of the principal postwar demands in the home appliance field is for automatic washing machines for home use and for installation in apartment houses and socalled laundrettes where the use of such machines is available to the public on payment of a service charge.

BACKLOG OF ORDERS

"Today there is a backlog-of orders for several hundred thousand automatic washing machines representing many millions of dollars of future retail sales. The action filed is intended to assure the public the benefits and protection of competitive conditions with respect to such sales."

The action itself alleges that Bendix has entered into sales contracts with its distributors; that with guidance from Bendix, the distributors have entered into sales contracts with each of their dealers which fix resale prices establish exclusive sales territories, require exclusive use of Bendix parts in service operations, and restrict uses for which the Bendix automatic washing machines may be sold.

It charges that Bendix and Telecoin have agreed to designate the latter as sole distributor of Bendix machines for installation in "laundrettes" and apartment houses.

EXCLUSION ALLEGED

"Under this arrangement, Telecoin, with alleged connivance of Bendix, purports to grant 'franchise' which exclude all automatic washing machines, except Bendix machines from commercially desirable locations; fix rental charges; require payment of monthly tribute to Telecoin, and unreasonably restrict the rights of owners and operators of rental machines with respect to those machines," according to the complaint.

It adds that Bendix and its affiliated companies supply 80 distributors throughout the country and these distributors resell the machines to approximately 8,500 dealers.

"From 1937 through 1945, Bendix sold approximately 330,000 machines to distributors for approximately $26,500,000," according to the charge. "These machines," it went on, "were sold by dealers to the public for approximately $65,000,000. Bendix sales amounted to approximately $800,000 in 1937 and increased to approximately $8,000,000 in 1941.

BENDIX SALES CITED

"Dealer sales were approximately $2,000,000 and $20,000,000, respectively, in those same two periods. Due to the war, production declined in 1942 and no machines were manufactured in 1943 and 1944. Production was resumed in 1945.

"Today there is a tremendous demand for automatic washing machines and Bendix dealers already have orders for several hundred thousand machines. In 1941, Bendix sold its Deluxe model machine to distributors for $81. The distributors resold to dealers for $125 and the dealers resold to the consumers for $189.50, $10 of which was to cover delivery, installation, service for one year, and a demonstration."

The suit charges that Telecoin, in approving rental contracts, has followed the policy of requiring that landlords agree to use Bendix automatic washing machines exclusively, thereby preventing competing manufacturers from installing machines.

The government seeks a decree adjudging the practices followed by Bendix to be unlawful and in violation of provisions of the Sherman and Clayton Anti-Trust Acts as tending to create a monopoly and enjoining alleged unlawful practices.

STATEMENT BY SAYRE

Mr. Sayre's statement on the charges follows:

"The alleged violations of the anti-trust acts involved in the agreements between Bendix and its distributors and dealers pertain to arrangements which have been almost universal in the home appliance distribution field.

"The rental machine arrangements complained of are incorrectly described in the complaint. A part of the arrangements described have never applied to our business. The portion correctly described did once pertain to our business, but have long since been abandoned.

"In any event, we understand the complaints do not come from household users, who have bought more than 85% of our total output since the inception of our business, but rather from a class of prospective purchasers who hope to derive profits from the public use of our machines.

CAUSE OF COMPLAINTS

"The tremendous demand for home laundries, which cannot as yet be fully satisfied, is largely responsible for these complaints.

"So far as the complaint pertains to establishing retail prices, it is ridiculous. Retail prices have been legally established in accordance with the fair trade acts of the various states and are authorized under the Sherman Act.

"Furthermore, the allegations of the complaint to the effect that 330,000 Bendix home laundries were sold from 1937 through 1945 and that Bendix dealers already have orders for several hundred thousand machines, are true, and furnish ample evidence that the prices fixed by Bendix have been accepted as reasonable and fair by the distributors, the dealers, and the public.

POSTWAR SALES 300,000

"Additional evidence is afforded in the fact that since V-J Day, with the plants of all manufacturers reconverting and in an open competitive market, we have sold more than 300,000 machines.

"It is true that our commercial sales operations have been conducted through the Telecoin Corp., and we believe that they have done an excellent job in a wide distribution in this field in the public interest.

"However, this represents only a small part of our business which is designed primarily to provide a good automatic home laundry for private use. We do not think that their operations have been correctly described in the complaint or have been calculated to exclude other automatic washing machines in the commercial field.

FIRST BENDIX COMPLAINT

"This is the first complaint against our company by any governmental authority. The matter is now receiving careful study by counsel for Bendix Home Appliances, Inc.

"To the extent that they may find any feature of our distribution system is in conflict with the anti-trust laws in the slightest degree, adequate and prompt changes will be made.

"Bendix desires to comply fully with all federal and state statutes. It has a product which is fully capable of maintaining its position of supremacy in any competitive market."

Wins Promotion



WALLACE C. JOHNSON
Has been appointed general sales manager for Admiral Corp.

Frozen Food Market Not Glutted, Broker Says

NEW YORK CITY — Although admitting that frozen food distributors have an unusually large inventory of 850,000,000 lbs. on hand at present, this does not represent a glut on the market, declared Fritz Brahm, chairman of the Frozen Food Division, National Food Brokers Association, speaking at a meeting of frozen food distributors at the Hotel Commodore here last week.

The size of this inventory, he emphasized, does not warrant unloading at price reductions, and the distributors' fear that frozen food prices will be lower next year is unfounded, said Mr. Brahm. There probably will be little decline in vegetables and fruits, and packers will tend to limit production, he added.

Much of this large inventory is not intended for retail channels, but will be used by food processors and manufacturers or is being held for off-season consumption, according to Mr. Brahm. Canners absorb large amounts of frozen food for defreezing and canning during the January-to-June period, and institutional buyers also have done much of the buying, he said.

Distributors pointed out that banks have begun restricting their credit because they believe the distributors are heavily overstocked.

Toastmaster Sets $18.75 On Fair Trade Contracts

ELGIN, Ill.—A minimum retail price of $18.75 for the Toastmaster automatic pop-up toaster, model 1B12, has been established by fair trade contracts in all states having fair trade laws, W. E. O'Brien, general sales manager of the Toastmaster Products division of the McGraw Electric Co. here, has announced.

Mr. O'Brien added that this price is as binding on those who do not sign contracts as on those who do.

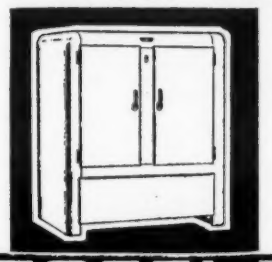
See the new Coolstream ELECTRIC WATER COOLERS ON DISPLAY at your distributors!

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Thermotic Engineering Co., Torrington, Connecticut
Manufacturers Agents, Inc., Washington 9, D. C.
Gray Products Corp., Miami 36, Florida
W. B. Haggerty, Inc., Tampa 1, Florida
Refrigeration Exchange, Inc., Atlanta 3, Georgia
Interstate Electric Co., New Orleans, Louisiana
Fidelity Engineering & Distributing Co., Baltimore 2, Maryland
Miller & Seddon Co., Inc., Cambridge 40, Massachusetts
Modern Refrigeration Sales Company, Detroit, Michigan
General Pipe & Brass Co., St. Louis 8, Missouri
First Colony Distributors, Inc., Raleigh, North Carolina
Refrigeration Sales Corp., Cleveland, Ohio
H. G. Bogart Company, Toledo 4, Ohio
A. L. Sherman & Sons, Philadelphia 6, Pennsylvania
C. R. Rogers Co., Pittsburgh 6, Pennsylvania
J. J. Slaughter Company, Ft. Worth, Texas
Electrical Distributing Company, San Antonio, Texas
Refrigeration Suppliers, Inc., Norfolk 10, Virginia
Emmons-Hawkins Hardware Co., Huntington, West Virginia
M. Fields, Toronto, Canada
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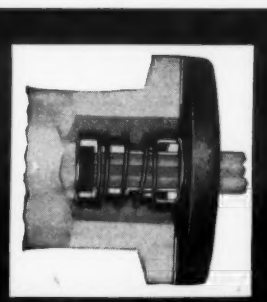


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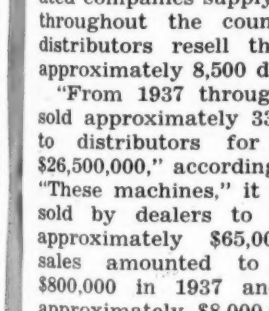
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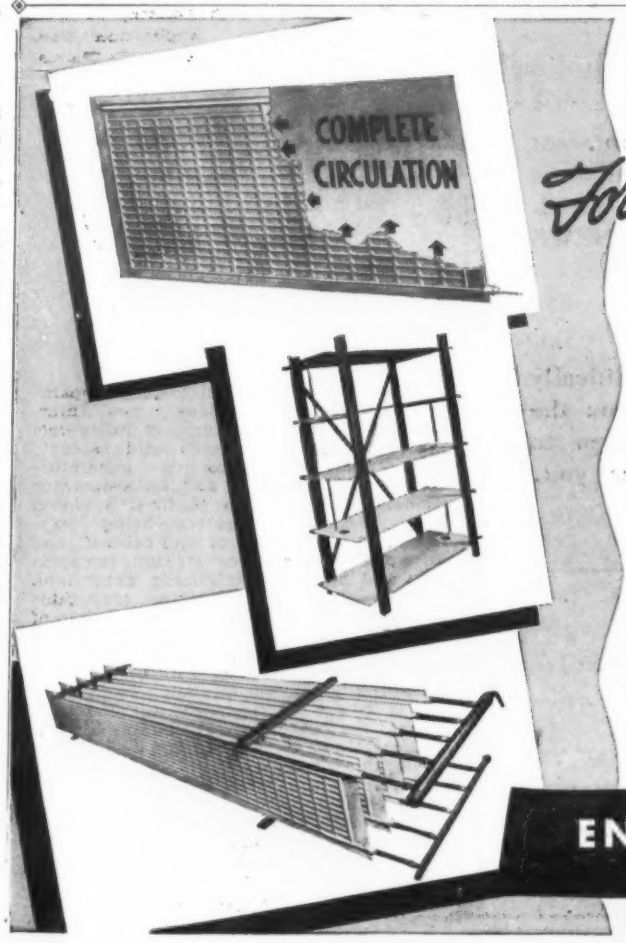
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Take a 19" x 108" Hubbell-Yoder Plate for example. That's 2052 square inches of plate area. And every single square inch is actual prime heat pickup surface. You see the interior of the plate is a network of ducts through which the refrigerant circulates, spreading out in all directions so as to form a web of refrigerating element. That's "*Complete* Surface Freezing."

If you make, sell or use low temperature equipment such as freezer cabinets, locker plant plate banks, sharp freeze shelf stacks, etc., it will certainly pay you to get details on Hubbell-Yoder Plates. They'll step up operating efficiency and reduce operating costs. As the old darkey said, "Dat am no prophecy: dat am a *fact*." Write, wire or phone.

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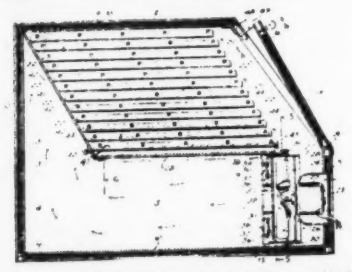
International Sales Agents
ENGINEERING SERVICE INC.
1309 WEST BOTH STREET CLEVELAND 2, OHIO

PATENTS

Week of Oct. 29

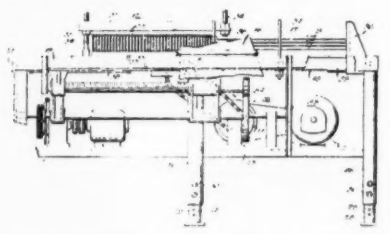
(Continued)

2,410,129. DEHYDRATOR. George H. Phelps, Floral Park, N. Y., assignor to Metropolitan Device Corp., Brooklyn, N. Y., a corporation of New York. Application March 11, 1943, Serial No. 478,755. 2 Claims. (Cl. 34—193.)



1. In a dehydrator especially suitable for dehydrating fruits and vegetables and comprising a cabinet having an air passage therein, means for causing air to pass through the air passage and a series of tray supports within the passage; a plurality of solid trays on the supports and extending from side wall to side wall of the air passage, each tray having a roughened surface which consists of irregular, closely related, minute projections, whereby fruits or vegetables placed thereon are supported by the projections and out of contact with the tray.

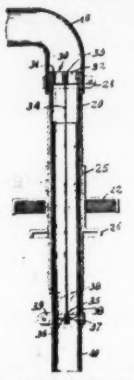
2,410,140. TUBE ASSEMBLY MACHINE FOR HEAT-EXCHANGE CORES. Fred M. Young, Racine, Wis., assignor to Young Radiator Co., Racine, Wis., a corporation of Wisconsin. Application April 23, 1945, Serial No. 588,790. 3 Claims. (Cl. 29—202.)



1. A machine for assembling a plurality of slotted laminae on a plurality of transverse bonding elements comprising, a supporting frame, an assembly jig on said frame for support a plurality of slotted laminae with the slots therein in alined registration, a pusher mounted on said frame for movement transversely of the assembled laminae for pushing a plurality of bonding elements simultaneously through the registered laminae slots, driving means for advancing and retracting said pusher, and a bonding-element bracing-member reciprocatingly mounted intermediate said jig and pusher and movable between a retracted position abutting said jig to permit the insertion of the ends of the bonding elements into the registered slots in the directly adjacent assembled laminae and an extended position intermediate said jig and retracted pusher to brace the bonding elements during the initial movement of said pusher.

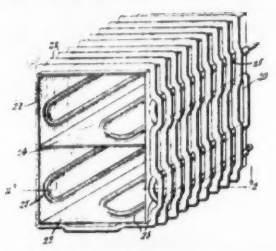
2,410,162. AGITATOR FOR LIQUID COOLING SYSTEMS. Joseph H. Horan, Bronx, N. Y. Application July 13, 1944, Serial No. 544,750. 1 Claim. (Cl. 285—2.)

A coupling structure, for use with a radiator having a neck portion, comprising a tube fitting into said neck and having an internally threaded sleeve portion protruding from said neck, an elongated externally threaded bushing adjustably threaded into the sleeve and presenting an upper end to which a pipe may be detachably secured, a cap fitting over said sleeve for engagement with said



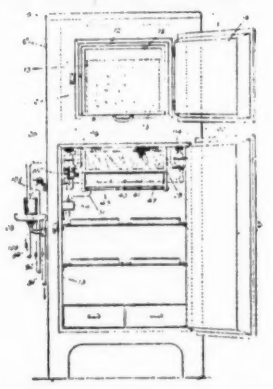
neck, a sealing gasket in said cap, a hose closely fitting inside said tube terminating short of the outer end thereof and extending out of the inner end thereof, rings positioned in the outer end of the tube and in the hose at the inner end of said tube and arranged to resist clamping pressure applied to the tube externally thereof, the inner end of said tube being slotted in that portion in which one of said rings is positioned, and a connector for joining said rings in fixed spaced relation with each other.

2,410,194. DEFROSTER FOR ICE CUBE TRAYS. Robert H. Baker, Munster, Ind. Application May 6, 1944, Serial No. 534,447. 2 Claims. (Cl. 62—1.)



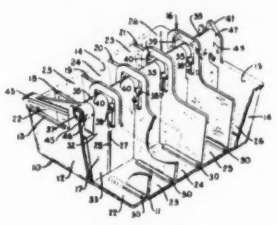
1. A modified refrigerating evaporator for household refrigerators in which refrigerating coils surround a rectangular metallic frame having side walls, a bottom, a top, and being without ends to admit slidable trays for ice cubes, the modification comprising pressed-out areas in the walls and bottom along definitive lines to produce grooves opening on the inner space of the unit, and heating coils lying in said grooves flush with the plane of the inner faces of the wall and upper face of the bottom.

2,410,232. REFRIGERATING APPARATUS. Arthur J. Pedigo, Cookeville, Tenn. Application March 11, 1944, Serial No. 526,021. 16 Claims. (Cl. 62—89.)



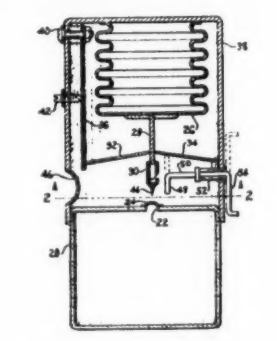
1. A refrigeration apparatus comprising, in combination with a casing, a horizontally disposed frame, hangers for suspending said frame in the casing, vertical spaced parallel walls mounted upon said frame and formed to connect between front and rear walls of the casing, the casing having a door controlled opening leading through the front wall into the space between the vertical walls, said vertical walls being spaced from the adjacent side walls of the casing to form vertical side air flues and being spaced from the top wall of the casing to form a horizontal air space, transverse walls connecting between said side walls and spaced from the front and rear walls of the casing to form vertical front and rear air flues, a top wall connecting the top edges of said spaced vertical walls and said transverse walls and forming therewith an ice chamber, a door controlled opening for the ice chamber through the said transverse wall adjacent to the first mentioned opening, means forming an ice supporting grid in the lower part of the ice chamber, said grid including a transverse water conducting pipe, water coils disposed in the first mentioned air flues and in the said horizontal air space and connected in series with the water pipes forming a part of said grid, means for connecting a source of water supply to said pipes and coils for circulation therethrough, a mechanical heat absorption unit in said front and rear air flues, and a mechanical heat absorption unit within the ice chamber.

2,410,292. REFRIGERATION. William H. Kitto, Canton, Ohio, assignor to The Hoover Co., North Canton, Ohio, a corporation of Ohio. Application Feb. 26, 1938, Serial No. 192,723. 12 Claims. (Cl. 62—108.5.)



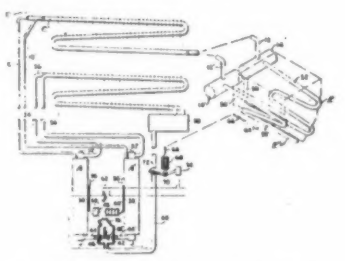
1. A removable grid for forming ice cubes in an ice tray including a partition and a plurality of transverse plates movable with respect to said partition, said transverse plates having cam engaging surfaces lying in successively higher planes, a cam associated with each of said cam surfaces, and means operable to bring said cams into engagement with said cam surfaces for moving said transverse plates with respect to said partition.

2,410,310. REFRIGERATING APPARATUS. Jasper A. Smith, Oakwood, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application Oct. 14, 1944, Serial No. 558,722. 1 Claim. (Cl. 116—103.)



A self-powered warning device for frozen food storage comprising a container containing a pleasant tasting and smelling odiferous fluid and a non-toxic volatile propellent normally a gas at atmospheric pressure maintained in liquid form therein under pressure, means responsive to a predetermined high temperature below 32° F. for releasing the fluid and propellent from the container whereby the existence of an abnormal temperature in the food storage device is indicated.

2,410,334. REFRIGERATION. George A. Brace, Washington, D. C., assignor to The Hoover Co., North Canton, Ohio, a corporation of Ohio. Application Nov. 21, 1941, Serial No. 419,815. 13 Claims. (Cl. 62—5.)



1. An absorption refrigerating apparatus comprising, a cabinet, two intermittently operating absorption refrigerating units assembled with said cabinet; each unit comprising a generator-absorber, a condenser and an evaporator connected by conduits to form a closed system; said evaporators being positioned on the interior of said cabinet; and an open combined ice freezer, temperature and humidity stabilizing water tank in thermal contact with the evaporator of one of said units; said tank being of large capacity, in open communication with the interior of said cabinet and exposed to air circulating within said cabinet; the arrangement being such that ice is frozen to the walls of said tank below the water level therein by the evaporation of refrigerant during the absorption-evaporation period of operation of said one unit and melted loose therefrom to float to the surface of the water in said tank by warm liquid refrigerant introduced into said evaporator during the generation-condensation period of operation of said one unit.

(To Be Continued)

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POSITIONS WANTED

MANUFACTURERS & DISTRIBUTORS: Experienced salesman in Commercial and Domestic Refrigeration Branch, who is continually traveling all through South American countries, would like to get connected with firm to represent them for different South American countries. Detailed offer, proposition, catalogs, and price-lists, send to BOX 2142, Air Conditioning & Refrigeration News.

AVAILABLE JANUARY first. Experienced refrigeration executive with unusual record of achievement in national distribution for manufacturer in the commercial field. Well grounded in all phases of production of metal and wood products including purchasing, expediting, employe relations, and management control. BOX 2161, Air Conditioning & Refrigeration News.

SERVICE MAN, commercial. Servicing, maintenance, and installing multiple unit multiple temperature jobs. 4½ years experience. College graduate. Age 28. U. S. born Japanese. Good reference. Now employed in New Jersey. Will consider any state. BOX 2166, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

WANTED: SERVICE engineer experienced in refrigeration. Can make a fine connection at once with a brilliant future in Omaha, Nebraska. Send essential details as to past experience, and salary requirements in first letter to save time. OMAHA CONTRACT BRANCH OF BAKER ICE MACHINE CO., 4110 Commercial Ave., Omaha 11, Neb.

OPPORTUNITY: LARGE established manufacturer of electric drinking water coolers wishes to contact men of proven ability and if possible product experience, to handle sales in Mid-West and some Eastern territories. Prefer men between ages of 30 and 40 years. BOX 2132, Air Conditioning & Refrigeration News.

WANTED: CHIEF engineer. Heavy water cooler manufacturing experience. Thorough knowledge of designing, production, and testing. Exceptional opportunity. Write detailing full qualifications and background. BOX 2165, Air Conditioning & Refrigeration News.

WANTED: DIRECT factory representative now calling on Pacific coast refrigeration distributors, for nationally advertised quality line of open-type self-service frozen foods cabinets. Excellent opportunity, full cooperation, prompt deliveries. Write full particulars, experience, lines handled, etc., to BOX 2167, Air Conditioning & Refrigeration News.

WANTED: DIRECT factory representative now calling on refrigeration distributors in Southern states; for nationally advertised quality line of open-type self-service frozen foods cabinets. Excellent opportunity, full cooperation, prompt deliveries. Write full particulars, experience, lines handled, etc., to BOX 2168, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

FOR SALE—Immediate delivery. New 1 hp., 1 phase, 2 hp, 3 phase, 3 hp., 3 phase, 7½ hp., 3 phase, water cooled units. 5 ton self-contained air conditioners. 1½ hp., 1 phase air cooled units. Stainless steel reach-ins. ALCO AIR CONDITIONING ASSOCIATES, INC., 401 Concord Ave., Bronx 54, N. Y.

IMMEDIATE DELIVERY—no waiting. Meat and delicatessen cases. Single duty and double duty. 8, 10, 12 ft. Dairy boxes, 7, 8, 10 ft. All complete with coils and fluorescent lighting. Franchises open throughout U. S. COMPLETE REFRIGERATORS SUPPLY, 92 7th Ave., New York City, N. Y. #WA-98190.

IMMEDIATE DELIVERY—New Air Conditioning Equipment. Weathermakers complete with motor, "Freon" coil, etc. 2 ton to 25 ton. SWSI, DWDI, and Twin Centrifugal Blowers, Propeller Fans, Heating and Cooling Coils, Evaporative Condensers, Self-Contained Air Conditioning Units. CONTROLDTEMP EQUIPMENT SALES CO., 236 Butler St., Brooklyn 17, N. Y.

FOR SALE: 1,000 new flip covers and frame assemblies for freezers and ice cream cabinets. Two popular sizes. ¼ to 2 hp. new and remanufactured condensing units, also new aluminum ice cube trays. EDISON COOLING CORP., 310 E. 149th St., Bronx 51 ,N. Y.

REFRIGERATOR DOORS, new, product of Jamison. 24 outside doors 33¾ x 73½ x 8 6 in. cork insulation metal covered two gaskets three hinges with matching batten vestibule doors. Price one outside and two vestibule doors crated $125 FOB E. M. FAIRBANKS CO., 145-03 Seventh Ave., Whitestone, L.I., N. Y.

44-CU. FT. REFRIGERATORS, immediate delivery, with blower coil—$389.92, with ice cube maker—$422.92. Stainless steel interior, white enamel exterior, 4 doors. Remote type, condensing unit and valves are not included. Terms S.D.B.L. 10% deposit with order. J. GEO. FISCHER & SONS, INC., Saginaw, Mich.

IMMEDIATE DELIVERY freezers open and closed glass top, stainless steel top, canopy type, 20-44 cu. ft. Florist Dairy boxes, bottle coolers, double duty display cases. Ice cream cabinets, storage boxes, wood-metal. 4-6 can milk coolers, reach-in refrigerators. Water Fountains. FRIGIDTEMP CORP., 931 Bergen St., Brooklyn 16, N. Y. MA 2-9093.

DRY BEVERAGE coolers, home and farm freezers, ice cream cases, open type. Frozen food cases with super structure, reach-in refrigerators. All equipment with and without units. Immediate delivery. Attractively priced, exclusive distributorships available. GENERAL REFRIGERATORS CORP., 678 Broadway, New York (12), ST 9-1222.

AVAILABLE FOR immediate delivery: ¼, ⅓, and ½-hp. Capacitator type refrigeration motors, 110 volt 60 cycle. Write: HANMAR CO., INC., 14255 Ventura Blvd., Sherman Oaks, Calif.

COMPRESSORS AND PARTS rebuilding—Compressors, float valves, water valves, low pressure controls, evaporators, water cooled condensers, condensing units and many other items replaced from our large stocks, or repaired upon receipt of your defective material. Send for our catalog-prices listed. REFRIGERATION MAINTENANCE CORP., 321 E. Grand Ave., Chicago, Ill.

FLOAT REPLACEMENTS. For replacing defective high side floats on all household units. Regular charging connection, capillary tube setup, internal strainer and exact mounting plate. Part #2000-Westinghouse (4 hole plate), and #2010 (3 hole plate); Part #2020-Gibson; Part #2030-General Electric (DR-1 & DR-2). Part #2040-For general replacement (undrilled plate). $6.75 each. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56.

SEALED CROSLEY TERMINALS. Installed from the outside in a few minutes without opening the compressor. Corrects leaky terminals on all Crosley "F-12" units. Set of three $6.75 (Part No. 1020). Installation tool $1.65. Immediate delivery. Money-back guarantee. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

FRIGIDAIRE METER-MISER Terminals. Installed from the inside. Fits compressors with bottom-mounted terminals (Part No. 1060.) Set of three $2.85. WESTINGHOUSE TERMINALS. Installed from the inside. (Part No. 1030.) Set of three $2.85. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

NORGE CHECK VALVES. For open-type units. (Part No. 1040.) $2.55 each. SEALED NORGE terminal, packing washers. For repairing leaky terminals. Installed from the outside in a few minutes. (Part No. 1050.) Three sets (9 washers) $1.00. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

SEALED NORGE terminals. Complete assembly. Replaces shorted terminals. Installed from inside. (Part No. 1100.) Set of three $2.85. Sealed Crosley terminals. Installed from inside. Part No. 1070 for SO2 models. Part No. 1080 for "F-12" models. Part No. 1090 for "F-21" models. Set of three $2.85. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

STATIONARY SWITCHES for General Electric Motors. G511-single contact, G511-2 Double contact G501 single contact ⅞ in. bore, G501-2 double contact ⅞ in. bore. G532 single contact 1 in. bore, G532-2 double contact 1 in. bore. 70¢ each, plus postage. Also stationary switches for Marathon motors $1.25 plus postage. THE SWITCH CO., Box 855R, Newark 1, N. J.

SECTIONAL WALK-IN coolers made of plastic plywood 4 in. and 6 in. of Fiberglas insulation. 8 ft. x 8 ft. x 7 ft. high. Write for prices and literature. ZERO REFRIGERATION CO., Saukville, Wis.

IMMEDIATE DELIVERY. New automatic electric ice cube maker. Will make approximately 2,000 ice cubes per day. Post-war invention. Has water-cooled sealed condensing unit complete. Beautiful stainless steel finish. For further information write BOX 2164, Air Conditioning & Refrigeration News.

FRANCHISES WANTED

OLD ESTABLISHED refrigeration sales and service company located in Connecticut desires franchises for dealer or distributorship for the state of Connecticut or Fairfield County for show cases, freezers, walk-in coolers, draw type freezers and biological cabinets. BOX 2157, Air Conditioning & Refrigeration News.

FRANCHISES AVAILABLE

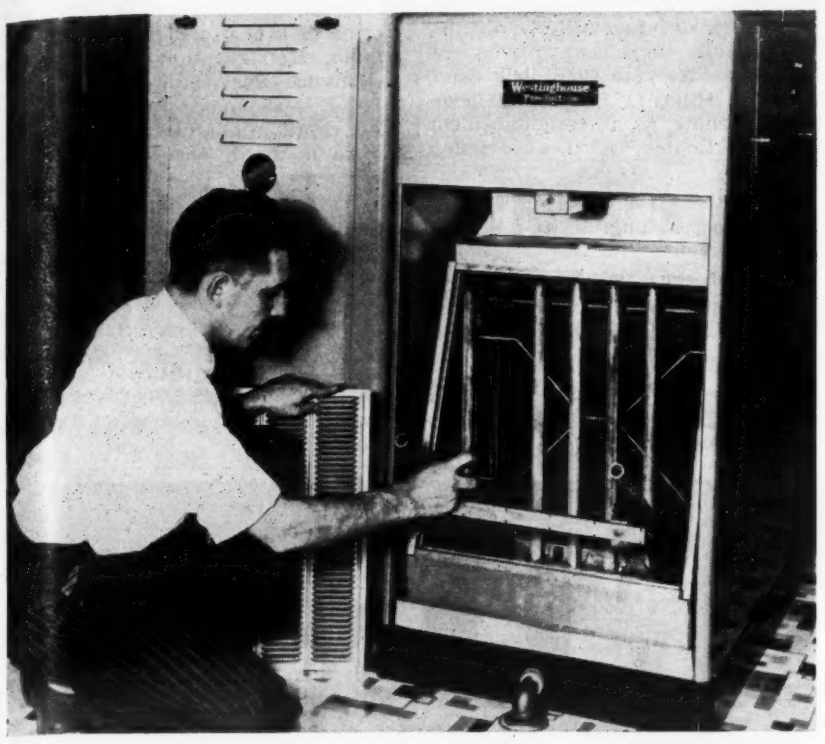
NYC MANUFACTURER has exclusive territory available for several select dealers who are capable of representing a quality line of sliding glass top display cabinets. Complete compressor and motor. Immediate shipments! FLEISCHMAN FREEZER CO., 275 East 140th St., Bronx 51, N. Y.

AVAILABLE FOR DELIVERY:

⅓-½-¾ Condensing Units
Priced Right on
Large Quantity Sales

Box 2150, Air Conditioning & Refrigeration News

What's New



Westinghouse's new "home central" cabinet model of the Precipitron.

* * *

Westinghouse Introduces Electrostatic Air Cleaner

HYDE PARK, Mass.—First production models of the new household "Precipitron," the electrostatic air cleaner that is claimed to remove 85% to 90% of all dust in the circulating air streams in homes as large as eight rooms, have moved off the assembly line at the plant of the B. F. Sturtevant Co. Division of Westinghouse Electric.

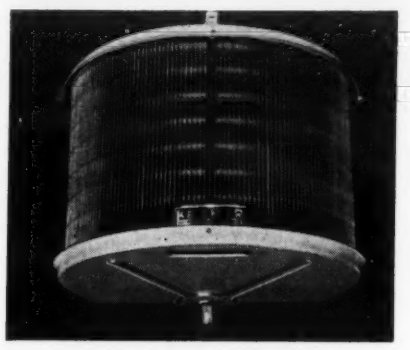
Home-owners will be able to buy a "Precipitron" either in a compact cabinet model about the size of a refrigerator, or built into a furnace unit by furnace manufacturers. The cabinet model will be sold by specially authorized contractors throughout the country, while the "Precipitron" built into furnaces will be available through the furnace manufacturers' regular dealers.

Standing 52 in. high, 27 in. wide, and 34 in. deep, the cabinet model is being made for use in conjunction with a warm air heating system or with an independent air circulating or air conditioning system. It will have an approximate selling price of $420 plus installation cost.

Operation of the air cleaner is based on the simple electrical principal that objects with like charges repel each other, and objects with unlike charges attract. Air to be cleaned first passes through an electrostatic field created by a "gate" of seven highly charged hair-thin tungsten wires and eight grounded aluminum tubes which are alternately spaced.

The air then enters the "dust collecting" cell which consists of 69 aluminum plates, alternately charged negative and positive, and set edgewise to the air stream. The charged dust particles are attracted to oppositely charged plates with the result that only clean air leaves the unit.

Cleaning the unit's dust-collecting plates is accomplished by turning a handle which releases five sprays of water that automatically wash away the dirt. Required about as often as a housewife defrosts her refrigerator, this flushing operation lasts three minutes, depending on the water pressure and the amount of dirt on the plates.



'Curvette' Front View

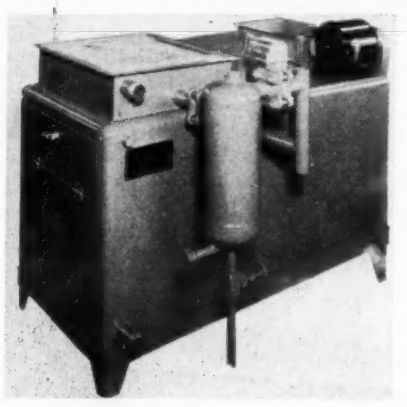
Niagara Makes 'Bantam' Aeropass Condenser

NEW YORK CITY—To aid the users of small refrigeration systems, who find the cost of condenser water and power a deterrent to the use of mechanical refrigeration, either for air conditioning, or cold storage applications, Niagara Blower Co. here has introduced a "Bantam" model of the Niagara Aeropass condenser.

According to the manufacturer, it operates under automatic control to maintain minimum practicable head pressure year round. Using the spray water principle, the refrigerant is condensed without material consumption of condenser water. The Niagara company claims 1,000 B.t.u. are removed from the refrigerant for each pound of water evaporated.

Several features of the model, according to the manufacturer, are: (1) pre-cooling coil to reduce the gas temperature below the boiling point of water and thereby prevent the deposit of scale from the use of hard water in spraying the condenser coils; (2) an "oilout" is located between the dry coil and the sprayed coils to remove the oil at the point where it tends to separate naturally; (3) "Balanced Wet Bulb Control" maintains uniform head pressures in year round operation.

This equipment, the manufacturer says, is available for refrigeration systems rated from 2 to 7 tons.



Niagara's 'Bantam' Aeropass Condenser

'Curvette' Unit Cooler Stops Moisture Drip

TRENTON, N. J.—A new "Curvette" unit cooler, consisting of a bank of finned coils curved into a semicircle with the fan and motor placed inside the curve of the coils, has been developed by the Kramer-Trenton Co. here.

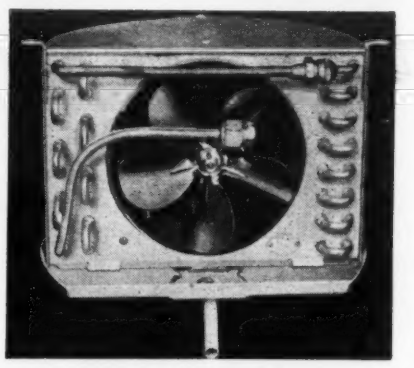
Because of this arrangement, moisture cannot drip from the fan and motor, according to the company.

The unit, of all copper and aluminum construction, measures 13 in. wide by 10¼ in deep, by 11 in. high. It is designed to cool beverage counters, food chests, reach-in refrigerators, and other fixtures.

Pointing out that radial air flow assures uniform refrigerator temperature and a high rate of heat transfer, the company sets the unit's capacity at 1,500 B.t.u. per hour at 10° temperature differential, or 2,250 B.t.u. at 15° temperature differential.

The motor is said to be permanently lubricated, requiring no attention whatever. Tubing, mounting, and drain connections are all easily reached, the manufacturer adds.

Further technical information on the Curvette cooler is contained in the company's bulletin No. R-106.



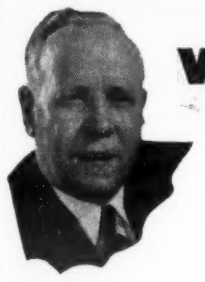
'Curvette' Rear View

* * *

Evansville Firm Incorporated

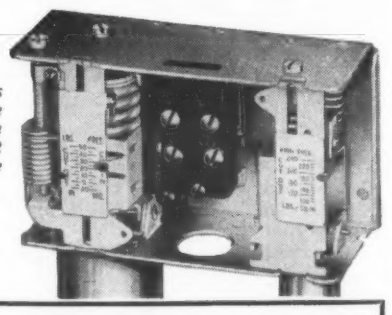
EVANSVILLE, Ind. — Articles of incorporation have been filed by Simpson Appliances & Equipment.

The incorporators are: Joseph E. O'Daniel, president; Haskell L. Simpson, vice president and general manager; George E. Ranes, secretary; and Kenneth C. Kent, treasurer.



WHAT! No Line Starters?

This New 2-Pole PENN Control Needs None!



Series 271 and 273 PENN "Dual" Controls combine in one unit a temperature or low side pressure actuated mechanism and built-in pressure safety cut-out. Also Series 270 and 272 PENN "Single" temperature or low side pressure controls (not shown).

Yes, it's true. This new PENN 270 Series Control can control polyphase motors (where protection against single phasing is provided) without the use of line starters. Double-pole construction explains the superiority of this PENN Control—the first and only control in the refrigeration and air conditioning fields so designed.

Get full details on this new and revolutionary control . . . and learn about many new design features that assure you so much simplicity, efficiency and dependability. *Penn Electric Switch Co., Goshen, Ind.* Export Division: 13 E. 40th St., New York 16, U.S.A. In Canada: Penn Controls, Ltd., Toronto, Ont.

8 Star Features 8

★ *Double-pole construction provides versatility of application . . . and gives greater protection.*

★ *Direct-reading, visible, calibrated dial shows operating cut-in and cut-out points . . . simple adjustments. "Dual" Controls have visible calibrated scale showing high pressure cut-out point.*

★ *Calibration or accuracy of performance not affected by vibration or mounting position.*

★ *Full range of differential adjustment in one model.*

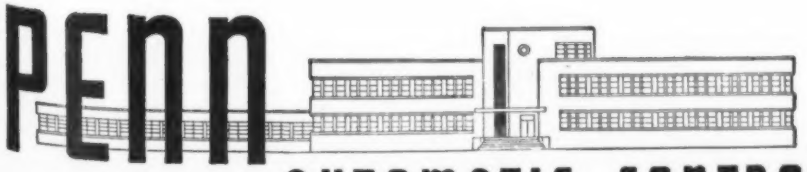
★ *Two temperature ranges cover all requirements.*

★ *Sturdy contact mechanism with better electrical performance.*

★ *Large block assembly with terminals molded internally for strength and permanency.*

★ *Modern, attractive, high tensile strength plastic cover.*

PENN



AUTOMATIC CONTROLS

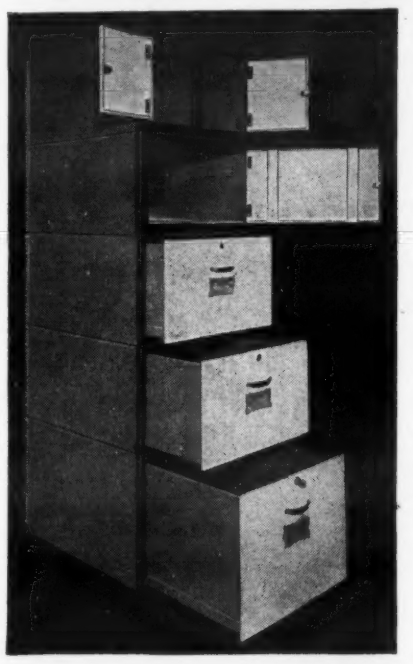
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We design complete plants which will meet tomorrow's competition and produce consistent profits for the owners. Our services include not one or two, but all phases of project justification, survey and layout, architectural design and specifications, construction supervision, and plant operation.

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A.S.R.E. Told of Naval Refrigeration Plans--

(Concluded from Page 1, Column 2)

pointed out that the war had prevented any integrated progress along these lines. He asked that the refrigeration industry cooperate in developing a unified refrigeration program for the Navy that will permit all naval vessels to be brought up to date by 1951.

This program should also prove "financially interesting" to the industry, added Commander Hawk.

This talk was one of seven presented in the symposium which detailed the problems involved in refrigerated transport by rail, truck, and sea.

Another technical session was devoted to food preservation problems, including two discussions of research conducted on frozen cooked foods, an analysis of frozen food wrapping materials, and an appraisal of the use of carbon dioxide to prevent scald in apples.

Numerous other refrigeration developments and problems were discussed in seven other technical papers presented.

(Future issues of the NEWS will carry reports of these talks.)

New Slate of Officers

R. H. Money, newly elected A.S.R.E. president, is refrigeration advisor to the Reynolds Metals Co. He formerly spent 15 years with Crosley Corp. as chief refrigeration engineer and during the war headed Crosley's Electro Mechanical Engineering department devoted to highly specialized war equipment. Previously Mr. Money had spent 10 years with Rex Mfg. Co. as a refrigeration engineer.

Clifford Holske, New York sales manager for Vilter Mfg. Co., was elected first vice president; Burgess H. Jennings, professor of mechanical engineering, Northwestern Technological Institute, is the new second vice president; Paul B. Christensen, vice president and chief engineer of Merchants Refrigerating Co., becomes the new treasurer.

Directors-at-large elected by the society include George B. Bright, Leon Buehler, Jr., Arthur J. Hess, S. R. Hirsch, and Edgar S. Ross.

The new council also voted to retain David L. Fiske as secretary, and is further considering the adoption of a code of procedure which would clearly define all the activities of the various committees, officers, and employes of the society.

Awards For Best Papers

Two awards for technical papers adjudged to be the best were presented during the meeting. C. E. Lund of Seeger Refrigerator Co. won the Wolverine Award for his paper on home freezer development presented at the spring meeting last June in St. Paul. R. H. Swart, who has just joined Carrier Corp., received a cash award for the best paper presented at a section meeting. His paper described a "capillary tube heat exchanger."

Freezer Standards Up

Among the various committee meetings held during this meeting was the freezer standards committee, which is progressing toward the formation of standards for the design and testing of home freezers which will ultimately be adopted by the American Society Association.

There was also a luncheon meeting with representatives of the Refrigeration Equipment Manufacturers Association to consider the formation of a joint committee to discuss adoption of commercial standards in which both groups are interested.

Want 'Junior Members'

A petition to re-establish the grade of "junior member" was presented by Mr. Christensen, new treasurer and chairman of the membership committee, and was accepted by a vote of the members. This is aimed in bringing young engineers into the society, and if adopted will offer them reduced dues. This move will involve a constitutional amendment and will be presented to the members by letter ballot at some future date.

To Study Trade Schools

Formation of a sub-committee headed by Warren W. Farr to study the problem of vocational education in refrigeration at the trade level and to cooperate with other societies and segments of the industry was announced by Dr. R. C. Jordan, chairman of the educational committee, in his report of the committee's activities.

Charters for new sections formed during the past year were presented during the New York meeting to representatives from Erie, Pa., Buffalo, Dallas-Fort Worth, and Georgia. The society now numbers 25 sections.

High point of the social events was attained Tuesday evening at the annual dinner-dance (without speeches), preceded by a cocktail hour. Night club entertainment and dancing marked the jamboree held Monday evening under the sponsorship of the Northern New Jersey section, hosts to this year's meeting.

Surplus Steel For All In February, Is Plan

WASHINGTON, D. C. — Seventy-five per cent of the present inventories of government owned surplus steel and non-ferrous products may become available to industry by February, 1947, according to W. H. Kelley, chief of the metal sales division of the WAA.

The committee recommended:

(1) that the WAA shorten its procedures for disposal of surplus metals so that surplus inventories may be made available more rapidly and (2) that the committee request the Civilian Production Administration to allocate 50% "across the board" of surplus metals for disposal to established steel warehouses to enable the industry to supply normal distribution to small manufacturers.

Alco Valve Shifts Two Field Sales Agents

ST. LOUIS—On Jan. 1, Alco Valve Co. will transfer Leonard K. Wright, Jr., of Knoxville, Tenn., from its southern territory to Columbus Ohio, to succeed Hugo C. Smith, of Cleveland, according to an announcement by C. F. Cooley, Alco advertising manager.

Mr. Smith is resigning to form a firm which will function as a manufacturers' agent.

The southern territory will be taken over on the same date by William B. Knox, of Atlanta, Ga., it was reported.

The Ohio territory also includes western Pennsylvania, West Virginia, and eastern Michigan.

Milwaukee Servicemen May Get New Contract

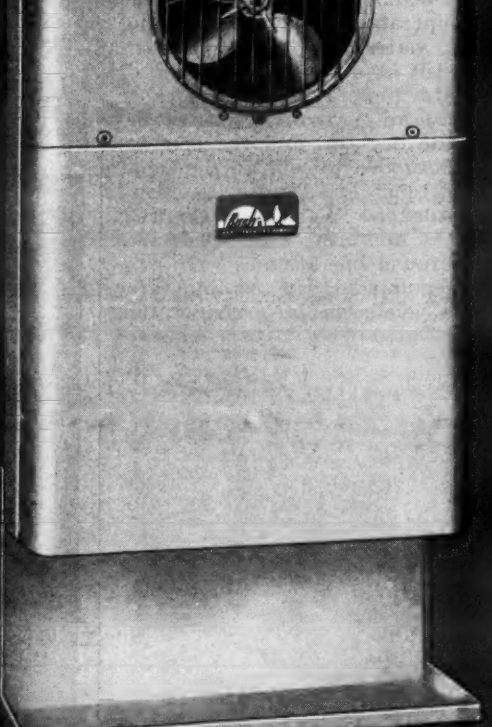
MILWAUKEE—The end of negotiations which began in June over terms of a new contract between the Radio, Refrigeration and Electrical Appliance Servicemen's union, local 1092-B, and a committee of wholesale and retail appliance dealers appears to be in sight, according to an announcement by the Wisconsin Radio Refrigeration and Appliance Association.

A fairly satisfactory compromise on wage increases and adjustment in working hours seems to have been reached, the association declared.

The service men seek renewal of their prewar agreement with the dealers. That agreement was inactive during the war emergency, the association said.

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